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THE COMMONWEALTH OF MASSACHUSETTS

REPORT
OF THE
DEPARTMENT
OF
LABOR AND INDUSTRIES

1920


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DEPARTMENT OF LABOR AND INDUSTRIES.

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Assistant Commissioner.

ETHEL M. JOHNSON, BOSTON.

Associate Commissioners.

EDWARD FISHER, LOWELL.

HERBERT P. WASGATT, EVERETT.

SAMUEL ROSS, NEW BEDFORD.

HEADS OF DIVISIONS AND BRANCHES.

Board of Conciliation and Arbitration.

EDWARD FISHER.

HERBERT P. WASGATT.

SAMUEL ROSS.

BERNARD SUPPLE, *Secretary.*

Division of Industrial Safety.

JOHN P. MEADE, *Director.*

JOSEPH MONETTE, *Counsel.*

Division of Standards.

FRANCIS MEREDITH,

Director of Standards.

Division of Minimum Wage.

Under the Associate Commissioners.

(The Assistant Commissioner is in immediate charge of the Division.)

Division of Statistics.

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MARGARET SHEA, *Statistician for
Manufactures.*

LESTER E. ARCHIBALD, *Statistician for Labor.*

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CHESTER A. ALLEN,
Superintendent.

Federal Director of Employment Offices.

E. LEROY SWEETSER, *Commissioner.*

The Commonwealth of Massachusetts

ANNUAL REPORT

OF THE

DEPARTMENT OF LABOR
AND INDUSTRIES

FOR THE

YEAR ENDING NOVEMBER 30, 1920



BOSTON

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CONTENTS.

	PAGE
REPORT OF THE COMMISSIONER OF LABOR AND INDUSTRIES,	9
Establishment of the Department,	9
Administration,	9
Organization,	10
Summary of Activities,	12
Important Developments in Work,	14
Recommendations,	15
Legislation,	15
Finances,	17
Financial Statement,	18
REPORT OF THE DIRECTOR OF INDUSTRIAL SAFETY,	21
Organization and Functions,	21
Inspection Force,	22
Block System,	22
Summary of Inspections,	23
Hours of Employment for Women and Minors,	25
Industrial Safety,	26
Building Trades,	27
New Code of Rules for Woodworking Machinery,	29
Safeguarding of Machinery by Manufacturers,	30
Hoods for Grinding Wheels,	30
Industrial Health,	32
Occupational Diseases,	34
Anthrax,	34
Lead Poisoning,	35
Dermatitis,	36
Gas and Fume Poisoning,	37
Courses in Industrial Hygiene at Harvard Medical School,	38
Special Investigations,	38
Health Hazards in Granite-cutting Industry,	39
Health of Women and Minors in Laundries,	40
Accident Prevention,	41
The Transportation Industry,	42
Licenses granted for Home Work,	44
Hours for Public Employees,	45
Weekly Payment of Wages,	46
Counsel's Office,	47
Recommendations regarding Budget for Division,	49
Financial Statement,	49
REPORT OF THE BOARD OF CONCILIATION AND ARBITRATION,	53
Organization and Functions,	53
Conciliation,	53
Arbitration,	54
Investigation,	54
Normality Certificates,	55

	PAGE
REPORT OF THE BOARD OF CONCILIATION AND ARBITRATION — Concluded.	
Summary of the Year's Work,	55
List of Industries affected and Principal Differences in Conciliation and Arbitration Cases,	58
Financial Statement,	59
REPORT OF THE MINIMUM WAGE COMMISSION,	63
Organization and Functions,	63
Summary of the Work for 1920,	63
Outline of Activities,	64
Legislation enacted in 1920,	66
Results of Investigations,	67
Wages of Women employed by Firms manufacturing Druggists' Preparations, Compounds and Proprietary Medicines,	67
Wages of Women employed in Establishments manufacturing Stationery Goods and Envelopes,	68
Results of Wage Board Activities,	69
Corset Wage Board,	70
Men's Clothing and Raincoat Wage Board,	70
Knit Goods Wage Board,	71
Women's Clothing Wage Board,	71
Paper Box Wage Board,	72
Men's Furnishings Wage Board,	72
Minor Lines of Confectionery and Food Preparations Wage Board,	73
Office and Other Building Cleaners Wage Board,	73
Summary,	73
Enforcement of Wage Decrees,	74
Outlook for the Future,	78
Revision of Rates,	78
Uniformity of Rates,	78
The Question of Uniform Enforcement,	80
Recommendations regarding Appropriation,	81
Financial Statement,	82
Membership of Wage Boards in Session in 1920,	83
REPORT OF THE DIRECTOR OF STANDARDS,	89
Organization and Functions,	89
New Legislation,	89
Rules and Regulations,	91
Proposed Additional Legislation,	91
Division Publications,	91
Measuring Leather,	92
Clinical Thermometers,	93
Laboratory Work,	94
Field Work of Inspectors,	95
Office Work,	96
Hawkers, Peddlers and Itinerant Venders,	98
Food in Package Form,	98
Local Sealers of Weights and Measures,	99
Lumber Survey,	101
New Units of Measurement for Shingles,	102
Financial Statement,	104
REPORT OF THE DIRECTOR OF STATISTICS,	109
Organization and Functions,	109
Publications,	110
The Department Library,	114

CONTENTS.

5

PAGE

REPORT OF THE DIRECTOR OF STATISTICS — Concluded.

Co-operation with the United States Employment Service,	115
Special Inquiries,	116
Records of Industrial Disputes,	118
Recommendations,	119
Monthly Labor Market Survey,	119
Establishment of a Mercantile Employment Office in Boston,	120
Co-operation with Other Statistical Organizations,	121
Financial Statement,	122
APPENDIX,	127
List of Publications of Department and Divisions,	127

REPORT
OF THE
COMMISSIONER OF LABOR AND INDUSTRIES

REPORT OF THE COMMISSIONER OF LABOR AND INDUSTRIES.

To the General Court.

The report of the Commissioner of Labor and Industries is herewith submitted. It contains a summary of the work of the Department for the year ending November 30, 1920, a statement of the expenditures for this period together with recommendations for legislation and appropriation for the ensuing year. Included in this report are the reports of the directors of the several divisions into which the Department has been organized. These give in detail an account of the character and result of the work accomplished by the Department.

ESTABLISHMENT OF THE DEPARTMENT.

The Department of Labor and Industries was created by act of the Legislature of 1919. By this Act, chapter 350 of the General Acts of 1919, — which became effective December 1 of the same year, — the functions of the former Board of Labor and Industries; the Board of Conciliation and Arbitration; the Minimum Wage Commission; the following divisions of the Bureau of Statistics: labor statistics, manufactures statistics, and public employment offices; and the offices of the Commissioner of Standards and the Surveyor-General of Lumber were transferred to and placed under one department, called the Department of Labor and Industries.¹

ADMINISTRATION.

The Department is under the supervision and control of five commissioners, — a Commissioner of Labor and Industries, an Assistant Commissioner and three Associate Commissioners. The Commissioner is the administrative and executive head of the Department, and has charge of the

¹ By act of the Legislature, May 25, 1920, the Commission on Foreign and Domestic Commerce was placed in the Department of Labor and Industries. This act became effective December 1, 1920.

administration and enforcement of all the laws, rules and regulations which it is the duty of the Department to administer and enforce. He directs all investigations and inspections, and is responsible for the organization and work of the entire Department.

The Assistant Commissioner acts as assistant to the Commissioner, especially in matters relating to women and minors.

The Associate Commissioners constitute an advisory board for the Commissioner. They exercise the functions heretofore vested in the former Board of Conciliation and Arbitration, and in the Minimum Wage Commission, except as to matters of an administrative nature. They have authority to investigate the circumstances of any industrial dispute, establish wage boards, review their reports, enter wage decrees and issue special licenses. They act with the Commissioner in making major appointments, as in the case of directors, and in forming committees upon which employers and employees are represented to make investigations and recommend rules. They also constitute a board of appeal for persons affected by orders issued by the Commissioner.

ORGANIZATION.

The Department has been organized into five divisions, as follows: the Division of Industrial Safety, carrying on the work of the former Board of Labor and Industries; the Division of Statistics, which includes labor and manufactures statistics, and the public employment offices, all of which were formerly a part of the Bureau of Statistics; the Division of Minimum Wage, and the Board of Conciliation and Arbitration, continuing, respectively, the work of the Minimum Wage Commission and the former Board of Conciliation and Arbitration; and the Division of Standards, which combines the offices of the Commissioner of Standards and the Surveyor-General of Lumber.

Directors have been assigned to take charge of the Divisions of Industrial Safety, Statistics and Standards. The Assistant Commissioner acts as director of the Division of Minimum Wage, while the Board of Conciliation and Arbitration is under the immediate direction of the Associate Commissioners.

The purpose of the consolidation of the several boards and commissions into one department was to bring about greater efficiency in work and economy in administration; to prevent overlapping and duplication in the inspections and investigations which the law requires shall be made; as well as to coördinate the functions of the various institutions of the Commonwealth which have to do with labor and industrial problems. This the Department has endeavored to accomplish in its organization and plan of work. No additions have been made to the staff personnel. The divisions established are those necessary to carry out the duties assigned by law to the Department. An examination of the reports of the divisions will show that there has been a general increase in the amount of work accomplished as compared with previous years.

In addition to the administration of the Department, the Commissioner of Labor and Industries, by virtue of his office, serves on the following State commissions: as chairman of the Soldiers and Sailors Commission; as a member of the Commission to Consider Methods for the Rehabilitation and Vocational Training of Disabled Soldiers and Others; the Commission to Investigate the Advisability of Establishing a Trade School in Leather Chemistry and Leather Manufacturing; and the Commission on Foreign and Domestic Commerce. He is also Federal director in Massachusetts for the United States Employment Service.

The Assistant Commissioner, in addition to her duties as acting director of the Division of Minimum Wage, acts as secretary at the meetings of the commissioners, and has charge of the revision of employment and educational certificates, and of the department publications. She represented the Department at the convention of the Association of Governmental Labor Officials of the United States and Canada at Seattle, Washington, in July, and at the twenty-first annual meeting of the National Consumers' League, held in Philadelphia in November, relative to a special conference on minimum wage.

SUMMARY OF ACTIVITIES.

During the year the commissioners held thirty-two regular meetings besides conducting hearings on the question of granting seasonal exemption to the tobacco industry, in which case the petition was granted; on the question of granting seasonal exemption to the fresh-fish canning industry, where the petition was denied; on the question of sealing a device known as the measuregraph, resulting in the sealing of the machine after certain corrections had been made to meet the requirements of the Department; and on the question of rules and regulations for the woodworking trades, resulting in the adoption of the rules recommended. Rules and regulations for the lighting of industrial establishments are under consideration. A committee has been formed to study and report on the subject, and a tentative draft for a lighting code has been prepared.

Several studies dealing with industrial health have been conducted. These include an investigation of tobacco factories, with special reference to the effect of the work upon women and children, and an investigation of health hazards in the granite-cutting industry. In addition, a study of working conditions in power laundries has been undertaken. These studies are made to determine the need of special rules and regulations for the protection of employees.

The work of conciliation and arbitration has extended materially during the year. Much attention has been given to averting labor troubles. The offices of the Board as mediator in industrial disputes have been accepted in a large number of instances with gratifying results. Important service was rendered by the Board in settling the strike of railroad freight handlers and preventing a recurrence of the same.

Continued activity on the part of wage boards is evidenced by the number of decrees entered by the Division of Minimum Wage and by the number of boards in session this year. The rates established during this period are the highest that have been entered in the State.

The transfer of the duties of the Surveyor-General of Lumber to the Division of Standards has greatly increased the work of administration in this division. It should be noted that this division is self-supporting in that it collects in fees and turns

over to the Commonwealth more than the amount of its expenditures. A change from the fee method of payment for surveyors has been inaugurated, and beginning with the coming year all such payments will be made on a salary basis. Although this necessitates an apparent increase in appropriation, it will be balanced by the larger amount in fees returned to the State treasury. Another important undertaking of the division is the systematizing of the survey of lumber.

Development in the statistical work is shown by the increased demands made upon the Division of Statistics. The "Massachusetts Industrial Review," which is published quarterly, contains up-to-date information on industrial problems. It is the intention to publish in 1921 a new Directory of Manufactures. The last publication was in 1913, and is now out of print. It is also the intention to publish a handbook of all the Massachusetts laws relating to labor. Valuable service has been given to the Board of Conciliation and Arbitration by supplying daily reports on labor controversies. The employment offices show an increase in the number of placements over the previous year, and a higher percentage of orders filled.

It is the desire of the Department to establish a mercantile employment office in the down-town district of Boston. This would be for clerical and professional workers, both men and women.

The library has given valuable information service to the Department and to the public. The extent of this service is indicated by the fact that the time of a librarian and two assistants is devoted to this work.

Measures directly affecting the work of the Department which have been enacted this year include the following:—

Restricting the employment of minors on freight elevators; extending the power of the Minimum Wage Commission in the appointment of members of wage boards and the revision of decrees; requiring information regarding specifications for textile operatives. In addition, a number of bills relating to the further supervision of weights and measures were passed. These concern the survey of lumber; the sale of bread by weight; sealing of milk jars; the testing of weights, measures, instruments and mechanical devices by the Director of Standards; and providing that slot machines shall be so approved.

The following committees have been appointed: lighting code, woodworking trades, safety work on transportation. An advisory committee of educators and experts is assisting the Department at the present time in preparing a form for the health certification of children entering industry. The forms used in connection with educational and employment certificates have been completely revised to comply with changes in legislation. This work was conducted in co-operation with the Department of Education. Bulletins have been issued explaining recent legislation regarding the issuance of employment certificates,¹ and emphasizing the importance of adequate health certification² of working children. In addition, the Department has published the first number of the "Bulletin of Current Activities,"³ describing the work of the Department and its several divisions and explaining how the functions of the former boards and commissions included in the Department are carried on under the reorganization.

IMPORTANT DEVELOPMENTS IN WORK.

Some of the important developments in the work during the year are noted below. Mention should be made of the arrangements effected with the employment service of the United States Department of Labor in conducting an information clearing service in Massachusetts; of co-operation with the Federal Census Bureau in taking a census of manufactures for the State; and of assistance given by the Harvard University Medical School in opening its courses in industrial hygiene to inspectors of the Department.

An important branch of the duties of the Department is the enforcement of the laws relating to labor. In this connection a systematic and regular inspection of all places of employment is required, and to this end a block system has been established and a new method of tabulation introduced. The results of this work are indicated by the number of different establishments inspected (21,399), the number of orders issued (19,073), and by the fact that of these orders only 1,380 are now outstanding, practically all of which require time for compliance.

¹ Legislation enacted in 1919 affecting the issue of employment certificates. June, 1920.

² Health certificates for working children. June, 1920.

³ Labor and Industries. Bulletin of Current Activities, Vol. I, No. 1, June, 1920.

Emphasis has been placed on the development of industrial safety. Work in this respect includes the investigation of accidents on street and steam railroads in the Commonwealth; the establishment of a safety council; the adoption of rules and regulations for woodworking machinery; and the publication of a bulletin¹ on accident prevention to children in industry, which has resulted in the establishment of a course for industrial safety in the public continuation schools. The Industrial Accident Board has greatly facilitated the work of this Department in accident prevention by supplying promptly all the data required.

Co-operation of employers and employees in organizing safety committees has been secured. In many instances manufacturers of machinery have united with the Department in enforcing the safety rules and regulations by equipping dangerous machinery with guards before the machines are placed on the market.

Conferences have been held by the Commissioner with employers and employees affected by the rulings of the Department. These have resulted in establishing pleasant relationships, and have demonstrated the fairness of both parties and their willingness to comply with the rules and regulations.

RECOMMENDATIONS.

Legislation.

Following are the recommendations for legislation needed in carrying out more effectively the duties of the Department in respect to the labor laws: —

Extension of the Law regarding Employment Certificates. — Under the present law employment certificates may be issued only to children fourteen to sixteen years of age who are to be employed in factories, workshops, manufacturing, mechanical or mercantile establishments. During the time the public schools are in session these are the only occupations which minors of this age may enter. Outside of school hours, however, and during vacation periods, these minors may engage in any other occupation, except the employments prohibited by statute, without securing an employment certificate. To

¹ Conserving children in the industries of Massachusetts. Industrial Safety Bulletin No. 15.

correct an obvious inconsistency in the present school attendance and employment certification laws, to extend the same protection to all working children fourteen to sixteen years of age, and to provide for a more effective enforcement of the child labor laws, amendment to the law is necessary.

Extension of the Law regarding Educational Certificates. — According to an opinion of the Attorney-General, educational certificates may at the present time be required only for minors sixteen to twenty-one years of age for employment in factories, workshops, manufacturing, mechanical or mercantile establishments. Inasmuch as these certificates are the basis for determining night school attendance of illiterate minors, it is advisable that the requirements should be extended to cover other occupations. Legislation to this effect is recommended.

Increasing the Penalty for the Illegal Employment of Minors. — The existing penalties for the illegal employment of minors are in some respects entirely inadequate, and fail to accomplish the purpose intended. This is particularly the case with regard to the penalty for employing minors in occupations where there is a serious accident hazard. The Department therefore recommends that the minimum penalty for first and subsequent offences of this nature be increased.

Relative to Hoods for Grinding Machinery. — Accidents of the most serious nature occur in connection with emery grinding wheels with a cast-iron hood. Experience has shown that the cast-iron hood will not hold parts of broken wheels, and that where hoods of this kind are used, workmen are not adequately protected from the possibility of serious injuries caused by flying parts of grinding wheels. To prevent accidents to workmen employed on such wheels, the statute should be amended by requiring the covering hoods to be suitably constructed, and of such material as shall be approved by the Department of Labor and Industries. The Department accordingly recommends that such legislation be enacted.

Providing for Medical and Surgical Chests for Mechanical Establishments. — The statute providing for first-aid treatment restricts this requirement to factories and shops where machinery is used for manufacturing or any other purposes ex-

cept for elevators or for heating or hoisting apparatus. Mechanical establishments, where machinery is used and where the work done is often carried on under conditions causing frequent injuries to employees, are not covered by existing laws. To deal adequately with the situation more legislation is necessary. Recommendation is made that the law be amended to include mechanical establishments.

Relative to the Weekly Payment of Wages to Employees of Transportation Companies.—A number of complaints regarding non-payment of wages by transportation companies have come to the Department. As the present law providing for the weekly payment of wages does not include certain forms of transportation, the Department is unable to take action in these cases. It is therefore recommended that the law be extended to cover the situation.

Finances.

The sum appropriated for the use of the Department during the year ending November 30, 1920, was \$354,925. Of this sum, \$328,500.31 was expended, leaving a balance of \$26,424.69. This surplus was occasioned in part by three vacancies for inspectors in the Division of Industrial Safety; the unexpended balance for salaries for surveyors of lumber in the Division of Standards; and by the fact that the census of manufactures was taken this year in co-operation with the Federal authorities,—an arrangement which will not be in effect in 1921. The amount recommended in the budget for 1921 is \$398,470, an increase of \$69,969.69 over the expenditures of the present year. In this is included the additional amount asked by the Division of Standards to permit placing the surveyors of lumber on a salary basis,—an amount which it is intended shall be offset by the fees received for their work. The balance is intended to fill the vacancies in the Division of Industrial Safety; the additional cost of the manufactures census; the publication of the Directory of Manufactures and Handbook of Labor Laws, together with increases in the salaries of employees, rents of branch offices and traveling expenses.

E. LEROY SWEETSER,
Commissioner of Labor and Industries.

FINANCIAL STATEMENT FOR 1920.

GENERAL.

ACCOUNT.	Appropriations.	Expenditures.	Unexpended Balance.
Officials,	\$20,500 00	\$20,500 00	-
Personal services,	249,700 00	226,754 57	\$22,945 43
Contingent and travel,	81,725 00	78,257 02	3,467 98
Wage boards,	3,000 00	2,988 72	11 28
Totals,	\$354,925 00	\$328,500 31	\$26,424 69

Collected in fees and paid into treasury of the commonwealth,	\$48,477 19
Collected in fees and paid into treasuries of cities, towns and counties of the Commonwealth,	11,639 00

BY DIVISIONS.

	1920 Appropriations.	Expenditures.	Unexpended Balance.	1921 Estimated Expenditures.
<i>Administration.</i>				
Commissioner, assistant commissioner, associate commissioners (personal services),	\$20,500 00	\$20,500 00	-	\$20,500 00
Clerical and other assistance to Commissioner,	2,400 00	2,160 00	\$240 00	4,500 00
<i>Division of Industrial Safety.</i>				
Personal services,	98,000 00	93,636 79	4,363 21	106,230 00
Expenses,	13,900 00	14,321 11	421 11 ¹	30,825 00
Travel,	16,000 00	16,639 13	639 13 ¹	-
<i>Division of Statistics.</i>				
Personal services,	36,900 00	34,815 40	2,084 60	41,200 00
Expenses,	12,900 00	11,776 02	1,123 98	15,945 00
<i>Public Employment Offices.</i>				
Personal services,	42,300 00	41,362 72	937 28	46,055 00
Expenses,	12,300 00	11,195 39	1,104 61	15,470 00
<i>Board of Conciliation and Arbitration.</i>				
Personal services,	18,500 00	15,354 99	3,145 01	20,640 00
Expenses,	6,000 00	5,700 68	299 32	6,790 00
<i>Division of Minimum Wage.</i>				
Personal services,	12,000 00	11,096 98	903 02	12,200 00
Expenses,	3,600 00	3,562 44	37 56	3,800 00
<i>Wage Boards.</i>				
Personal services and expenses,	3,000 00	2,988 72	11 28	3,300 00
<i>Division of Standards.</i>				
Personal services,	19,600 00	17,963 43	1,636 57	20,000 00
Expenses,	15,025 00	13,389 92	1,635 08	11,015 00
<i>Survey of Lumber.</i>				
Personal services,	20,000 00	10,364 26	9,635 74	34,470 00
Expenses,	2,000 00	1,672 33	327 67	5,530 00
Totals,	\$354,925 00	\$328,500 31	\$26,424 69	\$398,470 00

¹ Deficit.

REPORT
OF THE
DIRECTOR OF INDUSTRIAL SAFETY

REPORT OF THE DIRECTOR OF INDUSTRIAL SAFETY.

To the Commissioner of Labor and Industries.

I respectfully submit herewith the report of work accomplished by the Division of Industrial Safety for the twelve months ending November 30, 1920.

ORGANIZATION AND FUNCTIONS.

In this Division of the new Department of Labor and Industries, created under the authority of chapter 350 of the General Acts of 1919, the work of the former Board of Labor and Industries is continued. It is charged with the enforcement of the statutes requiring safety and health in working places, and with the maintenance of labor standards authorized by law.

The duties of the Division include administration of the laws regarding the employment of women and minors, regulating labor on public works, providing for the adequate lighting, ventilating and sanitation of industrial establishments, providing for guarding dangerous machinery, regulating tenement-house work, as well as such general labor laws as those regarding one day's rest in seven, the weekly payment of wages, and advertising for employees during strikes.

In connection with the laws regulating labor on public works, the Division is authorized to enforce the acts providing preference of employment for citizens, the customary and prevailing rate of wages for mechanics and teamsters, and the eight-hour day for laborers, workmen and mechanics employed by the Commonwealth or by any county, city or town, or by any contractor or subcontractor upon public works.

The Division is also charged with the duty of enforcing the rules and regulations adopted by the Department for the prevention of accidents and occupational diseases. These include

regulations for the prevention of anthrax, rules relating to machinery standards, safe and sanitary working conditions in foundries, the manufacture of benzene derivatives and explosives, the prevention of accidents in building operations, safeguarding woodworking machinery, providing safe conditions for men employed in the painting business, and rules governing compressed-air work.

INSPECTION FORCE.

No change has taken place in the inspection force during the past year. There are now 36 inspectors in the Division, 14 of whom are industrial health inspectors, 18 industrial inspectors, and 4 building operations inspectors. Seven of the inspectors are women, 3 of whom are industrial health inspectors, and 4, industrial inspectors. Although the industrial health inspectors give special attention to problems affecting industrial health, their duties also include the routine work of ordinary factory inspection.

BLOCK SYSTEM.

What is known as the block system of inspection has been introduced during the year. As this was to be tried to ascertain the advantages over the district system, it has been adopted only in the city of Boston and adjacent cities and towns. This system at present consists of twelve districts, and is under the supervision of the chief inspector.

Each district is subdivided into blocks, of which there are a total of seventy-four. An inspector is assigned to each district. He starts in a certain block and continues regular and systematic inspection work until his district has been covered. In this way an inspection of each establishment in the district is assured. A record of each inspection is filed in the office of the Division, and from the number of the block in which the inspector is working the number of inspections made can be readily ascertained.

It is believed that the advantages of thorough supervision, regular and systematic work on the part of the inspectors, and their closer acquaintance with the establishments in each district commend this system as being more efficient than the

district system previously used, and undoubtedly it will be adopted throughout the State.

Inspections have been made during the year in 21,399 establishments. As a result of these inspections, 19,073 orders have been issued, and 22,365 orders have been complied with. The record of compliances exceeds the number of orders issued because of the numerous orders outstanding from the previous twelve months. The year closed with 1,380 orders outstanding, nearly all relating to statutory requirements in which construction work and materials were involved.

SUMMARY OF INSPECTIONS.

The following tabulation presents a concise statement of the activities of the force for the twelve months ending November 30, 1920: —

<i>Inspections.</i>	
Mercantile,	9,410
Mechanical,	6,563
Building operations,	5,426
<hr/>	
Total,	21,399
Reinspections,	12,526
 <i>Visits.</i>	
Complaint,	1,369
Accident,	979
Occupational disease,	69
Home work,	2,196
All other,	2,330
<hr/>	
Total,	6,943
<hr/>	
Total inspections and visits,	40,868

Orders Issued.

Labor: —

Limit of hours of labor,	1,452
Posting notices and filing lists,	4,593
Sunday employment,	208
Procuring and returning certificates,	3,500
Miscellaneous,	48
<hr/>	
Total,	9,801

Industrial Health:—

Ventilation, humidity, dust removal,	296
Toilet and washing facilities,	2,879
Medical and surgical chests,	1,431
Exclusion of minors from dangerous trades,	156
Miscellaneous,	133
Total,	4,895

Industrial Safety:—

Safeguarding dangerous machinery,	2,461
Safeguarding dangerous openings,	32
Egress,	129
Building operations,	1,041
Miscellaneous,	138
Total,	3,801

Verbal orders issued, 568

Total orders issued, 19,073

Orders complied with, 22,365

Complaints.

Minors:—

Employed under fourteen years of age,	63
Employed without certificates,	47
Employed in prohibited trades and on dangerous machinery,	48
Illegal public exhibition of children,	26

Health and sanitation (impure drinking water, failure to provide lockers, inadequate toilet facilities, etc., no seats for women, inadequate or no blower system), 232

Time notices:—

Not posted,	24
Improperly posted,	2
At time other than stated,	1

Overtime employment:—

Women and minors,	351
Public works,	56
Nonpayment of wages,	773
Illegal advertising,	42
Unguarded machinery,	17
Building operations,	41
Labor, general (fines, holiday employment, weavers' specifications),	48
Miscellaneous,	11
Total,	1,782

Licenses granted for home work,	2,139
Registration of painters,	207
Wages paid by employer after complaint,	\$5,749 55

HOURS OF EMPLOYMENT FOR WOMEN AND MINORS.

In the enforcement of the laws relative to the hours of labor for women and minors, inspections were made in 15,973 manufacturing and mercantile establishments, and 4,593 orders were issued to post time notices and provide lists.

The co-operation received from the public in the enforcement of these statutes is indicated by the 562 complaints dealing with the employment of women and minors. Immediate attention was given to each of these complaints, and prompt compliance with the law secured. The protection of children in industry has been strongly emphasized by the Division.

The types of child exploitation encountered are not confined exclusively to manufacturing and mercantile establishments. In certain parts of the State the illegal employment of children on milk wagons in the very early hours of the morning has required attention. A systematic inspection of bowling alleys showed that many minors are employed late at night in both public and private alleys. The law prohibits the employment of minors under sixteen in public alleys, but does not restrict the employment of minors over fourteen in private alleys. A number of violations were found and corrected. The more serious cases were prosecuted.

A form of exploitation which is extremely difficult to check is the public exhibition of children on the stage or in places of amusement. Many violations of the law regarding such exhibition are found at the different beach resorts. Traveling circuses and theatrical troupes engaged in giving entertainments in amusement parks during the summer are among the worst offenders.

In addition to this work 3,500 orders were issued for procuring and returning employment certificates. As illustration of the public co-operation in the work of the Department, 121 complaints alleging violations of statutes regulating the employment of children between fourteen and sixteen years of

age were received. All of these were investigated, and when the complaint was found to be justified, orders were issued correcting the situation. In 53 cases prosecution was instituted.

INDUSTRIAL SAFETY.

During the year 3,801 orders dealing with hazards found in the various industries of the State have been issued by the Department. The significance of these figures is more fully realized when it is understood that in a large manufacturing establishment the issuance of a single order frequently results in removing many hazards.

The safety rules and regulations and machinery standards enable the Department to remove many serious hazards not specifically mentioned in the statute law. They touch each danger point in the modern industrial establishment, and are so arranged as to provide an environment of safety for the employee who must work in proximity to moving machinery.

In addition to requiring that workmen be protected from dangerous machinery contact, the rules provide that passageways and gangways of the plant must be in good repair and free from obstructions over which persons may fall. Adequate railings and proper stairways must be maintained where needed, and kept in good repair at all times. The enforcement of these rules fixes the attention of the employer and workman upon the need of co-operation in the removal of hazards, and promotes the thought of exercising personal care in the danger zones.

Inspectors of the Division constantly advocate organization of safety committees and employment of safety engineers for the purpose of instructing workmen relative to safe habits in industry. Co-operation in this work has been given the Department by many of the well-established concerns in the Commonwealth. The experience in such cases is that a reduction in the number of accidents invariably follows.

In many manufacturing establishments where such co-operation was secured a steady decrease in the number of accidents has taken place during the past year. In some the percentage of time lost on account of accidents has been reduced to an almost negligible quantity. Such work is indispensable in the

places where power punch presses, and machines of this type, cause permanent partial disability to employees.

Where experience justifies the belief that certain types of hazards exist in unusual working places, the entire inspection force is utilized for immediate work on a specific line. Illustration of this principle is furnished in the investigations of the coal and wood yards in different parts of the Commonwealth. Platforms 30 feet above the ground and not equipped with suitable guard rails were found to be largely responsible for fatal accidents.

Early in the year visits were made by the inspectors in each of the 39 districts covering 54 cities and towns where these establishments were of substantial size. As a result orders were issued in nearly every place. This policy has been followed in many other lines of industry.

Authorities agree that 75 per cent of the industrial injuries sustained by workmen are preventable. It is clear that much of the economic waste due to such injuries may be avoided by making working places safe through organized effort.

BUILDING TRADES.

Figures show that there were over 3,000 tabulatable accidents in the building trades in Massachusetts for the year ending June 30, 1919. Of these, 31 resulted fatally, and 87 caused permanent partial disability.

Systematic safety work in building operations is of recent origin in this State. By act of the Legislature of 1919, four inspectors are now devoting their time to securing compliance with rules and regulations for the prevention of accidents in building operations.

In the past year hundreds of buildings in the course of construction throughout the State have been inspected. Many sources of industrial accidents were discovered. It was found that hoistways were not adequately protected, and floor openings not properly guarded. Safety rails on scaffolding and staging were frequently lacking. In all, 5,426 inspections of buildings in process of construction were made, and 1,041 orders for compliance with the rules and regulations were issued.

Safety work in building operations is rendered extremely difficult because of conditions typical to the industry. While in manufacturing establishments the process of work is the same day after day, in the building industry conditions are constantly changing. The shifting of the working force on the job is another contributory factor in the record of accidents. The hazardous nature of the industry is reflected in the large percentage of fatal accidents and of permanent partial disability cases. Workmen in the employ of small concerns in the building trades, who do not insure their employees against industrial accident, are placed at a serious disadvantage, for the small contractors are frequently without property, and no recovery is possible when action is brought against them. Employees of such concerns are now given the protection afforded by the statutes providing for their safety while engaged in the building trades. Special effort has been made to inspect all work done by contractors of this type. The larger contractors co-operate with the Department in observing the rules and regulations.

This is also true of the different firms engaged in the construction of scaffolds and staging. Although the number of inspectors engaged in this work is inadequate, progress has been made in maintaining safe conditions for workmen in the building trades.

During the year 207 concerns engaged in the painting business have registered with the Department of Labor and Industries in compliance with rules and regulations requiring them to do so. Much has been accomplished in preventing the employment of men in this occupation on unsuitable staging. Compliance with the rules is usually prompt when attention is directed to unsafe rigging. The practice of loaning rigging, a custom existing in the trade, has been discouraged.

Suggestions have been made by the inspectors to employees in places visited to test the gutter or roof rigging before hanging the staging, and not to permit several men to crowd together on it,—a practice sure to cause an excessive strain and to unbalance the staging.

Employees have also been advised to report to their employers all defects found in ladders or rigging, and have been

impressed with the importance of personal cleanliness in a trade where the lead hazard is conspicuous. Much progress has been made in practical safety work in this industry.

NEW CODE OF RULES FOR WOODWORKING MACHINERY.

New rules and regulations to prevent accidents to employees on woodworking machinery have been adopted by the Department, and are now being enforced by the inspectors of this Division. In preparing these rules the experience of other States was consulted, and the methods in operation for the prevention of accidents in this trade carefully analyzed.

Experts in the woodworking industry representing employers and employees gave their time freely, and through their technical skill and knowledge of the trade the Department has been able to formulate a code of rules designed to deal with the more prominent hazards of the woodworking industry in Massachusetts. These rules deal with the most prolific sources of accidents, and specifically cover such danger points as circular rip-saws, circular cross-cut saws, jointers and planers.

The advisory committee, which assisted in preparing the rules, was composed of employers and employees in the industry, and experts acquainted with the work of accident prevention. Acknowledgment of the services rendered by the men who served on this committee is made by the Department. The membership of the committee is given below:—

William C. Chesworth of J. A. Fay & Egan, Boston.

C. W. H. Blood, Vice-President and Chief Engineer, S. A. Woods Machine Company, South Boston.

Edward M. Coffin, Staff Engineer, Associated Industries, Boston.

A. L. Bemis, Manufacturer, Worcester.

Alvin D. Parker of Walter L. Parker Company, Lowell.

Hugh Morrison, Pattern Makers Association of Boston and Vicinity.

Martin T. Joyce, Secretary-Treasurer, American Federation of Labor (Massachusetts branch), Boston.

S. E. Whiting, Assistant Chief Engineer, Liberty Mutual Insurance Company, Boston.

John F. Tinsley, Vice-President and Chief Engineer, Crompton & Knowles Loom Works, Worcester.

John Johnston, representing employees of American Steel and Wire Company, Worcester.

James W. Feely, Carpenters' District Council No. 8, Boston.

SAFEGUARDING OF MACHINERY BY MANUFACTURERS.

The growing interest in safeguarding hazardous machinery has caused certain manufacturers to construct safeguards on machinery built in their establishments. This work has received the approval of the Department, and efforts have been made to encourage it.

Much inconvenience is imposed on firms that purchase machinery in the open market and are afterwards required by the Massachusetts statutes to equip such machines with suitable devices for the prevention of industrial accidents. This method is expensive and wasteful, and frequently results in the construction of safeguards which are inadequate to meet requirements of the law.

Guards for hazardous machinery should be uniform. Moreover, the guards should be attached to the machines during the process of construction, so that all dangerous parts will be adequately protected before the machines are placed on the market. It is obvious that a Federal law would be the only practical means by which this could be effectively accomplished. Much of the machinery used in the manufacturing establishments of Massachusetts, however, is built in this State.

The Division has sought the co-operation of machine manufacturers in the work of placing their product on the market fully equipped with necessary safeguards. In their visits to the industrial establishments of the State, the inspectors often find machinery of modern construction not properly provided with mechanical guards. Numerous manufacturers have been interviewed, and in many instances signified their intention to co-operate with the Department in this work, with the result that a large number of these concerns are now constructing safeguards for their machines before sending them out to the trade.

HOODS FOR GRINDING WHEELS.

Accidents of the most serious type occur in connection with grinding wheels covered with a cast-iron hood. Experience has shown that a cast-iron hood will not hold parts of broken wheels. In some cases it has been found that the cast-iron hood of the type used in connection with dust exhaust suction

pipes was broken completely off the machine. Where steel hoods have been used enclosing grinding wheels and the wheel burst, all the parts were held inside of a sheet steel hood. In this manner workmen were protected from serious and possibly fatal injuries caused by flying parts of grinding wheels.

A grinding wheel safety code is now in process of preparation under the direction of a committee representing the United States Department of Labor and labor departments in Pennsylvania, New York, New Jersey, Ohio and Massachusetts, which are co-operating to this end with a committee representing the grinding wheel manufacturers of the United States. Agreement has been reached on fundamental principles for the protection of workmen who are exposed to the risk of injury arising in the operation of grinding machinery.

Tentative rules have been adopted in connection with the methods to be employed for securely mounting grinding machinery on substantial floors, benches, foundations or other structures, and for requiring these structures to be of such character as to minimize vibration. Automatic methods of lubrication are to be provided, including a stipulation for proper threading of spindles. It is also advised that hoods be mounted so as to maintain alignment with wheels, the fastenings to have ample strength to minimize displacement in cases of wheel breakage. This code will deal with cylindrical grinding machines, surface grinding machines, and location of the dust exhaust outlet.

In the preparation of rules to prevent occupational injury to employees working on grinding machines it would be well to await the adoption of a safety code by the authorities now engaged in its preparation. With the Department of Labor and Industries of Massachusetts represented in this movement, advantage will come from waiting for the result of a country-wide investigation of the subject. In the meantime the statutes should be amended to deal promptly with those weaknesses that permit the employment of workmen in a hazardous situation, exposed to serious industrial injury.

INDUSTRIAL HEALTH.

Conservation of the health of employees in industrial establishments constitutes one of the important duties of the Division.

The work done in this respect deals with the legal requirements for adequate ventilation, including the removal of dust, fumes and poisonous gases, and requiring the installation of proper exhaust systems. The furnishing of fresh and pure drinking water, washing facilities, suitable and adequate toilet facilities for both sexes, medical chest and first-aid rooms for persons injured or taken ill upon the premises, regulating humidity in shops and factories, including textile establishments, providing women in certain occupations with seats, and installing lockers for clothing in mercantile and manufacturing establishments where the nature of the work renders it necessary are among the laws enforced by the inspectors. In addition, statutes regulating the moving of boxes and other receptacles by women, lunch periods in factories and shops, the sanitation of bakeries and proper lighting of factories and workshops are within the scope of their daily work.

Fourteen of the inspectors in the Division are especially qualified by technical education in problems relating to industrial health. Of these, four have been admitted to the practice of medicine in Massachusetts.

During the year 4,895 orders were issued dealing with matters relating to industrial health. Of this number, 2,879 required compliance with statutes regarding toilet and washing facilities. The enforcement of these regulations are essential to the maintenance of the health of workers. Very many industrial diseases owe their origin to the habit of employees of eating with hands soiled by contact with poisonous substances required in connection with the processes of manufacturing, such as lead, arsenic, mercury and benzene compounds. In industries of this type, where there is undue exposure and where the work is especially dirty, running hot and cold water must be provided.

In the requirements for medical and surgical chest, and installation of first-aid room to accommodate persons injured or taken ill upon the premises, 1,431 orders were issued. Prompt

compliance with the orders pertaining to industrial health is usually secured, and the law enforced with but occasional necessity for court action. This is shown by the fact that of the 295 cases prosecuted during the year, only 13 were for violation of sanitary laws.

The appeals made by the public in this same period, however, indicate the widespread interest in these statutes. Out of 1,782 complaints for the year ending November 30, 1920, 232 were principally concerned with laws relating to the health of men, women and minors in industry.

The importance of first-aid equipment cannot be overestimated. Its purpose is to treat promptly cuts and bruises and other injuries so as to prevent them from becoming infected. In the first-aid equipment required under the statutes are found solutions, washes, ointment and bandages, which, if applied promptly after an injury is sustained, and in accordance with the printed instructions given, prevent infection and reduce to the lowest minimum the amount of time lost because of a minor accident.

Notwithstanding the work done in this respect, infection of such injuries is seemingly increasing. The statute providing for such first-aid treatment restricts these requirements to factories and shops where machinery is used for manufacturing or any other purpose, except for elevators or for heating or hoisting apparatus.

Statistics given by the Industrial Accident Board show that 5,603 cases of infection took place during the year ending June 30, 1920, 18 of these resulting in the death of the employee, and 27 causing permanent partial disability. Eleven and three-fifths per cent of all tabulated accidents in the period mentioned owe their origin to the neglect of first-aid treatment for simple cuts, abrasions, contusions, bruises, burns, punctures and lacerations. The principle of first-aid treatment is not successful without real co-operation of employees. Practical accomplishment in this work is made only when active interest is secured. Many employers, recognizing both the economic and human side of this problem, provide medical and surgical chests even when their establishments are not directly required to do so by law.

In establishments where first-aid rooms are provided, infection following injuries is exceedingly rare. In reducing sickness, accidents and deaths among the wage-earning portion of the Commonwealth, first-aid treatment constitutes an important element. Close attention to this subject has been one of the leading features of the inspection work.

OCCUPATIONAL DISEASES.

Anthrax.

Modern industrial processes expose numerous employees to the risk of sustaining personal injury by contact with dusts, fumes, gases and various poisonous substances.

Among the serious diseases of industry is anthrax, which often arises from the handling of infected hides or hair. Anthrax is primarily a disease of animals such as goats and sheep, and is transmitted to men in a number of industrial pursuits. It is confined largely to employees in tanneries and to persons engaged in wool sorting. Inquiry made in the establishments where the employees worked revealed the fact that imported hides and wool were handled daily. The materials imported from China, India and other Asiatic countries and from places in South America were found to be an important factor.

In the tannery industry, where the larger number of anthrax cases were discovered in this Commonwealth, the hides and skins are usually imported in a raw state. They are sorted in the tannery and then soaked according to processes varying in different establishments. This treatment, while it does not succeed in destroying the anthrax spores, is said to diminish the risk of anthrax infection because it washes away the dirt, blood and other substances containing the spores. For the purpose of removing the hair from the hides the materials are placed in pits containing a saturated solution of slaked lime, where they remain for some days. Technical authorities assert that even a lime bath of such duration, or a powerful disinfectant for many purposes, is unable to kill the anthrax spores.

In 1919, 22 cases of anthrax were discovered in Massachusetts. In the year just closed 18 cases have been reported to

the Department of Labor and Industries and investigated by the industrial health inspectors. In each case where this disease was found a thorough inspection of the plant was made and special care given to the sanitation and ventilation.

The experience with anthrax in Massachusetts during the last five years has stimulated attention to health conditions in plants where this disease is likely to appear. Excellent first-aid rooms are usually provided, and physicians retained by some concerns to make daily visits to their establishment. Foremen are instructed to report all cases of cuts, bruises or abrasions of the skin, and to require employees to report for medical treatment.

Copies of inspectors' reports on anthrax are furnished to the Department of Public Health, which has co-operated with this Department during the year for the purpose of treating this disease. In view of the decrease in the disease since 1917, when 52 cases of anthrax were reported, it would seem that preventive methods on the part of State and Federal authorities have been responsible for the substantial reduction in the number of cases occurring in Massachusetts.

The Federal Department of the Treasury and Agriculture, beginning January 1, 1917, prohibited the importation of hides, wool, hair or other products from animals affected with anthrax, and established requirements for the disinfection of these products if imported from districts where anthrax prevailed, and also for the disinfection of conveyances and certain premises. In the years just preceding, when these requirements were not in force, an extraordinary high anthrax frequently existed, especially among tannery employees and longshoremen.

Lead Poisoning.

The relative importance of anthrax as compared with lead poisoning reported in the United States is shown from the statement that for every death from anthrax five occur from lead poisoning. Lead poisoning is more generally recognized by physicians and hospitals than any other occupational disease. Reports made by the industrial health inspectors indicate that strong efforts have been made to reduce the hazards from lead in various industries.

During the past twelve months 50 cases of lead poisoning have been investigated. These occurred to workmen employed in operating lead furnaces, plumbing, applying priming coat on automobile bodies, painting structural iron, monotype setting, and other industrial pursuits in which lead is an integral factor.

Reports made by inspectors contain valuable information relative to the cause of this disease. An employee who worked at installing plumbing fixtures on cruisers frequently handled red lead which was used for packing joints and also for making threaded pipes moisture-proof. He never wore gloves, and the constant rubbing of the soft lead doubtless promoted its absorption through the skin. In the establishment where this case was investigated several other men were being treated by the corporation physician for lead poisoning.

The scouring of automobile bodies with sandpaper after the priming coat had been applied was found in some instances to create a dust containing particles of lead which were inhaled by the workmen. A number of cases of lead poisoning have resulted from such work. A man who was employed for some months operating a double lead furnace absorbed lead oxide from eating with dirty hands.

These cases are typical in the experience of the Department in the investigation of industrial diseases.

Dermatitis.

Occupational dermatitis is found in connection with many different types of employment in Massachusetts. Contact with industrial poisons is responsible for many cases. Time lost because of incapacity in connection with this disease does not compare in volume with other forms of occupational injury. Employees are frequently noticed following their daily work while afflicted with the disease in a mild form.

The prevention of absorption of poisonous material through the skin is effectively accomplished by keeping dust, fumes and chemical compounds from the hands or clothing. The rules and regulations suggested for safety in the manufacture of benzene derivatives and explosives find their way into industries where these conditions prevail, and workmen are in-

structed relative to the personal caution which must be exercised.

The inspectors investigated 21 cases of dermatitis which had been reported to the Department, and when necessary issued orders to correct conditions in the industry, and at the same time advised employees with reference to personal hygiene.

Gas and Fume Poisoning.

New conditions in the industrial world have contributed to make fume and gas poisoning a serious problem in connection with the general health of employees in certain types of establishments. The manufacture of dyes, coal tar products and benzene compounds is frequently carried on without much protection for the workman against poisoning from impurities in these compounds. There were 15 cases reported by physicians to the Department this year where workmen suffered from benzene fumes and gases, together with 3 cases of benzol poisoning.

Remedial measures for the prevention of industrial poisoning enforceable through the police power of the Department, are comprised in the installation of suitable exhausts for the removal of fumes, gases and dusts from establishments where toxic substances are important in manufacturing processes, and in the maintenance of adequate sanitary and washing facilities. The number of orders issued during the past twelve months is an indication that the work preventing industrial poisoning is effectively carried on.

Under the provisions of section 6, chapter 813 of the Acts of 1913, the Department is given authority to require that every physician treating a person whom he believes to be suffering from poisoning of lead, brass, phosphorus, arsenic, mercury, wood alcohol, or from anthrax or compressed-air illness, shall report within forty-eight hours to the Department of Labor and Industries the information relating thereto called for by blanks issued for that purpose. Every physician treating a patient suffering from any of the foregoing industrial diseases is also required to make report on these blanks to the Department of Labor and Industries regarding any patient whom he treated for any other ailment or disease which he

believes to have been contracted as a result of the condition of his employment. The number of cases reported during the year indicates a growing interest on the part of physicians in the efforts of the Department, which is of substantial assistance in dealing with occupational diseases.

In securing reports of occupational diseases from the Industrial Accident Board the Department is enabled to acquire knowledge of cases not reported by physicians. From these two sources information is collected for nearly all serious cases of industrial disease, which are then investigated by the industrial health inspectors.

COURSES IN INDUSTRIAL HYGIENE AT HARVARD MEDICAL SCHOOL.

Through the courtesy of the Harvard Medical School five of the inspectors attended the course of lectures on industrial toxicology given by Harvard University and the Massachusetts Institute of Technology. This course covered the period from October 28 to November 30, inclusive.

The course covered a discussion of industrial poisons, and being intimately correlated with the experience of the industrial clinic at the Massachusetts General Hospital, was of much assistance to the inspectors in connection with problems of industrial health work coming within the scope of their daily experience.

This co-operation will be continued and arrangements made for other inspectors to attend future courses. It is the purpose of the Division to co-operate with any agency that can bring to the work of industrial health the experience gained from research work in the industrial field.

SPECIAL INVESTIGATIONS.

In addition to the routine inspection work several special investigations dealing with industrial health have been made this year. One of these studies was on the effect of different processes in the manufacture of tobacco upon the health of employees. Investigation into the conditions existing in tobacco factories in greater Boston, with special attention to its

effect upon the health of women and minors, was made by one of the industrial health inspectors. Fifty-six establishments in which over 2,000 men and women were employed were visited. In making the visits the following subjects were given careful attention: general cleanliness, ventilation, humidity, temperature, dust, ammonia content, bacterial count, sanitary facilities, first-aid room.

In connection with the general problem of the health hazards of tobacco workers, these conditions were considered: the effect of the work on beginners; the effect on minors; the danger of tuberculosis and other respiratory affections; the problem of occupational neuroses; the possibility of an occupational dermatitis; the question of toxic amblyopia; the general effect on the health of women, especially with regard to the genital system.

A report on these various matters and their relation to the manufacture of cigars and cigarettes was made to the Department. The study was of service in determining compliance with existing statutes. Orders were issued to guard machinery in seven of the establishments visited. In many places inadequate lighting required correction. Orders regarding keeping the workshop clean and providing for means to control the dust hazard were required in many instances.

HEALTH HAZARDS IN GRANITE-CUTTING INDUSTRY.

The presence of pulmonary tuberculosis among workmen in the granite-cutting industry has received the attention of State authorities in recent years. The introduction of compressed-air surfacing machines with the use of pneumatic tools has increased the hazards in this industry by generating a powdery dust easily inhaled. On the products involving the finer design work the mouth and nose of the employee are brought into much closer contact with the point of operation, and he is completely enveloped in granite dust. To remove this dust from proximity to the employee is the means by which this hazard may be controlled. Portable exhaust systems can be made to achieve this result. Special investigation of the granite industry in Quincy was made by one of the physicians on the staff, who furnished the Department with statistics:

relative to health conditions among the approximately 600 men employed in 100 granite-cutting sheds.

Inquiry to the labor departments of the larger granite-cutting States, including Vermont, California, Minnesota and Wisconsin, found no uniform plan operating for this purpose. At St. Cloud, Minn., — the center of the granite-cutting industry in that State, — however, all firms have installed extension screens which can be pulled out between benches for the purpose of catching small flying spalls. This is held to have been the means of greatly reducing the number of accidents to workmen. In Wisconsin there is no particular rule or regulation for controlling the dust hazard other than the general orders of sanitation, which require that machines which create and throw off dust must be equipped with an exhaust system so designed and attached that it will carry off the dust in so far as the character of the work will permit.

It would seem advisable to have this problem considered by a committee to formulate rules and regulations for requirements in connection with exhaust systems in each industry.

HEALTH OF WOMEN AND MINORS IN LAUNDRIES.

In addition to the studies just described an investigation of working conditions in laundries, with special reference to the effect upon the health of women and minors, has been undertaken. This investigation is now in process.

The wet wash laundry, the latest development in this industry, is usually carried on in small establishments where machinery is closely crowded together, creating a hazardous condition for employees. Provisions for the disposition of waste water and steam are frequently found inadequate. The business is often carried on in old buildings without regard to the health and convenience of employees, and they are thus exposed to danger arising from insufficient lighting, poor ventilation and inadequate sanitary facilities. Much valuable experience has been gained relative to conditions in this industry, and orders have been issued to improve conditions in many of the establishments.

ACCIDENT PREVENTION.

The purpose of accident studies is a very practical one. It has for its object finding out where and why accidents happen and how they may be prevented. Analyzing the causes of industrial injury can be accomplished successfully only through the investigation of typical accidents.

During the year ending November 30, 1920, the inspectors investigated 979 injuries to workmen. These investigations have been conducted in pursuance of an established plan. Inquiry has been made in nearly all fatal accidents. Injuries of a permanently disabling nature, such as loss of eyesight, the loss of limbs, hands, feet, fingers or toes, are investigated in almost every instance. When it has been found necessary, special investigations have been made in establishments where it appeared that an unusual number of accidents were taking place. In such cases the inspector has sought to unite the interests of employer and employee in the need of safety work.

The investigation of accidents to children between fourteen and sixteen years of age has made possible the most constructive work in the enforcement of the child labor laws. No better plan could be devised for checking up the certificate law or those statutes which restrict the child's employment to safe areas in industry. All serious injuries sustained by children between fourteen and sixteen years of age are investigated. The experience is that nearly all such accidents are preventable.

Administration of the statutes preventing the employment of children in proximity to hazardous machinery constitutes one of the most important duties of the inspection staff of the Division. During the past year 156 orders were issued against employers who violated these statutes. Prosecution was instituted in 14 cases where children were employed on prohibited machinery. These facts indicate the activity of the inspection force in the protection of working children.

During the month of September, 1920, 43 continuation schools for children between the ages of fourteen and sixteen years of age were opened in Massachusetts. These schools are located in all the important industrial centers outside of Bos-

ton, where a school has been in operation for several years. Approximately 30,000 children from the factories and mills are now attending continuation schools, where the statutes provide they must receive instruction for at least four hours a week.

This affords an opportunity for effective accident prevention work, and has resulted in the publication of a bulletin on "Conserving Children in the Industries of Massachusetts,"¹ which aims to co-ordinate the work of the inspectors of this Department with that of the continuation school teacher in providing the child with knowledge relative to the causes of industrial injury.

The injuries sustained by minors between sixteen and eighteen years of age present an important field for work by the inspection force. Such minors may not be employed in or about blast furnaces, in the operation or management of hoisting machines, or in the operation or use of any polishing or buffing wheel; neither may they work at various occupations in connection with the railroad or in operating motor vehicles of any description. They are prohibited from employment in oiling or cleaning hazardous machinery, an activity that is responsible for many painful injuries.

In summing up the work of the inspection force in the investigation of accidents, practical results have been achieved and a foundation laid for future constructive work.

THE TRANSPORTATION INDUSTRY.

More fatal accidents take place among employees in the transportation industry than in any other. Out of a total of 376 fatal accidents in this State during the year, 102 occurred in this industry. The nature of the work is extremely hazardous, and employees are exposed to many dangerous conditions. In no industry is there greater need for promoting the principle of safety among workmen, and in no employment is the accomplishment of this work more difficult. The number of fatalities to employees taking place on the steam railroad and street railway lines of the Commonwealth each year constitutes a challenge to the State department authorized

¹ Department of Labor and Industries, Industrial Bulletin No. 15, 1920.

under the statutes to determine reasonable means or requirements for the prevention of accidents.

In view of the difficulties involved in such an undertaking, it was determined to provide a plan by which this problem could be treated. A study made by the Department showed that in some parts of the United States, where special work for the prevention of accidents was taking place on railway systems, much was accomplished in the reduction of accidents among employees. Encouragement to promote this work in Massachusetts was received from nearly all the leading authorities in the United States concerned with the administration of safety work in the railroad industry.

Information has been secured from many of the railroad lines in this country relative to the means adopted for the prevention of accidents, among them being the Nashville, Chattanooga, St. Louis Railroad; the Pennsylvania System; Northern Pacific Railway Company; Chicago & Northwestern Railroad; Baltimore & Ohio Railroad; Southern Railway System, Washington, D. C.; Atlantic Coast Line Company, Wilmington, N. C. Information was also received from the Bureau of Safety, Interstate Commerce Commission, Washington, D. C.

In the steam railroad industry inquiry was made into the effectiveness of reaching employees unfamiliar with the English language, and meetings of safety organizations were attended in order to learn to what extent safety work was being done for the employees.

Inquiry into the accident rate to employees on street railways of the State brought out some interesting facts. In 100 fatal cases studied, contact with industrial injury seemed confined to motormen, conductors, laborers, men employed in shops and power houses and linemen. Street railway car shops in different parts of the Commonwealth were visited, and conditions affecting the installation of medical and surgical chests noted.

In the case of one of the street railway companies an efficient safety organization was effected and maintained for a period of two years. During this time the accident rate was reduced to a gratifying degree. The organization ceased to

function after this period, and the accident rate immediately increased, giving a practical demonstration of the value of organized work for safety among employees.

Among the recommendations made to the Department as a result of this investigation are the need for providing adequate clearances and more mechanical safeguarding, as well as providing education for accident prevention through a safety council composed of officers of the company and representatives chosen by the employees.

On November 29, 1920, representatives of the principal transportation companies in the State met in conference with the Commissioner of Labor and considered the matter of formulating plans for the prevention of accidents to workmen engaged on their different systems. The representatives present approved the plan of providing for co-operative efforts by the transportation interests of the State with the Department of Labor and Industries to reduce accidents to employees.

A tentative plan proposed by representatives of these various companies has been presented to the Commissioner of Labor for action by the Department, and a definite step taken to establish, under the direction of the State, an organized effort for accident prevention in this industry.

LICENSES GRANTED FOR HOME WORK.

Effort has been made during the past twelve months to regulate effectively inspection work incidental to the issuance of licenses for making, altering, repairing or finishing wearing apparel in tenements or dwelling houses.

It was found upon investigation that a number of firms in different parts of the Commonwealth advertised extensively in non-English publications for persons to do work of this character. In some cases the advantages accruing to the employee were pictured in attractive language appealing to the mothers of families as a means of meeting the prevailing high cost of commodities. The possibility of earning money during spare hours at home appealed to a large group who could not be engaged in regular employment in manufacturing establishments, and applications were made promptly

to the Department for an inspection of the premises as provided for in the statutes.

The need of inspection work in establishments where large problems affecting the safety and health of employees existed emphasized the duty of preventing wasteful visits to applicants for licenses who would use them for a short time only, and in many instances not at all.

When several persons in the same family applied for opportunity to do home work, they were each notified by the prospective employer that a license must be secured from the Department of Labor and Industries before the work could be done in the home. This custom was responsible for wasteful visits made by inspectors, who found in numerous cases that a member of the family had already received the license provided for by statute.

Conferences have been held with firms engaged in this industry, and arrangements perfected by which this inspection work would be confined entirely to persons who would make practical use of the license when granted. The statutes were made clear to them, and their co-operation asked in the matter of preventing unnecessary visits by inspectors. Practically all the firms engaged in this work have responded to the suggestions made, and are now co-operating effectively in this matter. During the year 2,139 home-work licenses, as required by section 106, chapter 514, Acts of 1909, were granted.

HOURS FOR PUBLIC EMPLOYEES.

Fifty-six complaints alleging violations of the eight-hour law on public works were made to the Department during the past year. These complaints came to the Department during the summer months, and pertained to cities and towns engaged in the repair or construction of streets. In many instances they concerned contractors who have made an agreement to employ laborers, workmen and mechanics in accordance with the requirements of chapter 240 of the General Acts of 1916.

In nearly every case the defence was made that an emergency justified the course taken, in that there existed danger to property, life, public safety or public health. In the business

part of a large community, where narrow streets are the rule, it is manifest that work requiring the street to be closed would expose property owners to certain dangers arising from such circumstances.

The statutes provide that where the public safety or public health, life and property are endangered an extraordinary emergency exists, and employees may lawfully work more than eight hours per day or forty-eight hours per week. To determine the facts in connection with these complaints it has been necessary to hold conferences in a large number of these cases. Arrangements have now been made whereby contractors notify the Department when in their judgment an extraordinary emergency exists.

In such cases an inspector investigates the circumstances in order to determine that the employment of laborers, workmen and mechanics under such circumstances can be lawfully permitted. Where emergencies are not clearly defined in the statute there exists a difficulty with regard to the enforcement of the eight-hour law on public works. A clearer definition would be conducive to more satisfactory enforcement.

WEEKLY PAYMENT OF WAGES.

The weekly payment law in Massachusetts was enacted for the purpose of securing for the employee his wages at certain fixed periods. The law provides, in addition, that he must be paid the wages he has earned in full. The Department of Labor and Industries has authority under the statutes to bring a complaint against any person, firm or corporation engaged in business, as defined under chapter 87 of the General Acts of 1916, for failure to comply with the law relative to the payment of weekly wages.

During the past twelve months the sum of \$5,749.55 has been paid by employers after complaint had been made to the Department. It was necessary to prosecute only nine cases during the year.

The law has proved to be a helpful instrument in securing wages for many workmen without an outlay of expense on their part. This is especially true of workmen employed by

small contractors in the building trades. Many non-English speaking people, who are frequently the victims of unscrupulous persons, appeal to the Department for assistance under the weekly payment law. In many cases their problems are serious, since they concern the laborer who must support his family and endeavor to maintain a comfortable home. Invariably small amounts are involved in these transactions, and it is not profitable for the employee to secure legal assistance.

Many complaints for non-payment of wages have their origin in a misunderstanding or a dispute regarding the rates of payment agreed upon. Conferences held between the parties involved usually result in a mutual settlement, and litigation is avoided in this manner.

Domestics do not come within the scope of the weekly payment law. Many workers of this type complain to the office of their inability to secure the wages they have earned. In some instances these persons are victims of the worst type of injustice, and are compelled to suffer because there is no way relief can be secured without incurring expense. When this problem concerns a mother who is struggling to care for small children, and who is compelled to take up domestic work as a means of their support, it becomes a serious matter.

COUNSEL'S OFFICE.

In harmony with the general policy of the Department this office has proceeded on the assumption that ignorance of the labor laws and regulations has been the source of a majority of their violations. In conjunction with the other agencies of the Department it has endeavored to inform and educate the employer of labor rather than to prosecute him. Courts have been resorted to only in cases of deliberate infractions. It is gratifying to report that the great majority of the employers of labor have shown a ready disposition to comply with the laws whenever their requirements have been called to their attention. The practice of issuing Department orders and bulletins has had a most salutary effect in that direction, and will account for the comparative paucity of the prosecutions. It must not be thought, however, that this office has

been unduly lenient. Whenever an employer was detected knowingly violating any of the laws immediate prosecution has followed.

The following tabulated statement contains detailed information on that side of its work which brought the Department in contact with the courts of the Commonwealth:—

Total number of prosecutions,	295
Result:—	
Convictions,	252
Acquittals,	19
Nol pros,	3
Dismissed,	21
Character of offence:—	
Minors:—	
Employed under fourteen years of age,	20
Employed without certificates,	53
Employed in prohibited trades and on dangerous machinery,	60
Illegal public exhibition of children,	1
Health and sanitation (impure drinking water, failure to provide lockers, inadequate toilet facilities, etc., no seats for women, inadequate or no blower system),	13
Time notices:—	
Not posted or improperly posted,	17
At time other than stated,	20
Overtime employment:—	
Women and minors,	54
Public works,	22
Non-payment of wages,	9
Illegal advertising,	13
Unguarded machinery,	2
Building operations,	2
Labor, general (fines, holiday employment, weavers' specifications),	7
Hindering inspectors from entering building,	1
Failing to allow forty-five minutes for lunch,	1
Total,	295
Disposition:—	
Cases in which fines were imposed,	119
Cases placed on file,	133
Total of fines imposed,	\$1,725

RECOMMENDATIONS REGARDING BUDGET FOR DIVISION.

An appropriation of \$127,900 was authorized by the General Court for 1920. The estimate for the ensuing year is \$137,055. The major part of this increase is represented by an advance in salaries. The estimate includes provision for two additional stenographers and for expert assistance to the Commissioner. The increase in contingent and traveling expenses is intended to cover advances in railroad rates.

In connection with the estimate for the Division it should be noted that, as there is no separate budget for the Department, the traveling and other expenses of the commissioners, and general departmental expenses, are charged to this Division.

FINANCIAL STATEMENT.

The following is an itemized statement showing expenses incurred during the year ending November 30, 1920:—

	Appropriations.	Expenditures.
Salaries,	\$98,000 00	\$93,636 79
Contingent expenses,	13,900 00	14,321 11
Travel,	16,000 00	16,639 13
	\$127,900 00	\$124,597 03
Unexpended balance,		\$3,302 97

Respectfully submitted,

JOHN P. MEADE,

Director, Division of Industrial Safety.

REPORT
OF THE
BOARD OF CONCILIATION AND ARBITRATION

REPORT OF THE BOARD OF CONCILIATION AND ARBITRATION.

To the Commissioner of Labor and Industries.

Following is an account of the work of the Board of Conciliation and Arbitration for the year ending November 30, 1920.

ORGANIZATION AND FUNCTIONS.

As a result of the consolidation of the State departments, the rights, powers, duties and obligations of the Board of Conciliation and Arbitration were transferred to the Department of Labor and Industries, to be exercised by the three associate commissioners of the Department as a part of their duties, in the performance of which they retain the designation of the Board of Conciliation and Arbitration.

The functions of the Board have not changed, and in matters pertaining to labor disputes are three in number, — conciliation, arbitration and investigation. The Board also has jurisdiction in the matter of normality petitions and of hearings on the removal, suspension and transfer of veterans in the employ of the Commonwealth.

CONCILIATION.

The policy of the Board is to investigate, in so far as time and opportunity permit, all labor troubles and disputes arising in the Commonwealth, to ascertain the facts causing the same, and endeavor to assist the parties concerned in adjusting their differences, or, failing thereof, to induce the parties to submit the matter to arbitration.

The Board is convinced that in many, if not in most, instances the opportune time for rendering effective assistance to the parties is before a strike or lockout actually occurs. To that end it has adopted the policy of requesting the parties to call any prospective labor troubles to its attention before

such a situation arises. There is ample evidence that this policy has been successful in preventing many serious labor troubles. It is hoped that both employer and employee will co-operate in carrying out this policy by giving notice in advance to the Board of any differences arising which may result in a controversy.

The Board will not consider the giving of this information as an appeal for its good offices, but merely as information sought, upon the receipt of which it will assume full responsibility for acting, and will investigate and tender its services to the parties or take such other steps as may seem advisable in an endeavor to prevent what might be a serious labor dispute.

ARBITRATION.

The Board has no power to arbitrate except by the mutual agreement of the parties concerned. After a case is submitted on a joint application a hearing is given before the Board. Each party has a right to nominate three or more experts, and the Board chooses one expert from each of the lists of nominations submitted. The parties have the further privilege, if the issue warrants, of submitting a list of factories or establishments in the Commonwealth where the wages paid and the methods and grade of work are similar to those in the factory or establishment in controversy. The experts, first being sworn under the direction of the Board, visit these factories or establishments, as well as the factory or establishment where the controversy exists, and make a confidential report to the Board, which thereupon makes a decision. Unless the nature of the issue otherwise requires, or the parties otherwise agree, the decision remains in effect for six months. Either party, however, has a right to notify in writing the other party and the Board of its refusal to accept the decision, in which case the decision is operative for a period of sixty days after giving such notice.

INVESTIGATION.

In addition to the investigation in conciliation cases the Board has the power and authority to make an investigation in any industry in which labor trouble exists or is seriously

threatened, provided more than twenty-five employees are involved, and provided, further, that conciliation efforts have been of no avail, and no agreement to submit the controversy to arbitration has been reached. Under such circumstances the Board has the right to publish a report of its investigation, finding the cause of the trouble and assigning the responsibility or blame for its existence or continuance. Under the law it is the duty of the Board to make such an investigation if the Governor so requests.

NORMALITY CERTIFICATES.

Where a labor trouble exists or has existed the employer may petition the Board for a certificate of normality. If, after a hearing, due notice of which is given by publication and by mail, the Board finds that the business of the employer is carried on in a normal and usual manner and to a normal and usual extent, a certificate of normality may be granted, which authorizes the employer to advertise for help without stating that a labor trouble exists among his employees.

SUMMARY OF THE YEAR'S WORK.

Upon the Board's assuming office there were 17 joint applications for arbitration and 2 normality petitions pending. In addition, 344 joint applications for arbitration and 23 normality petitions were filed, making a total of 386 arbitration and normality cases. Of the normality petitions, 24 have been acted upon, and 1 was abandoned, no hearing being requested. Decisions have been rendered in 333 arbitration cases (in 5 of which 1 issue, that of piece prices, is still pending); in 2 instances recommendations have been accepted in lieu of decisions; 12 applications (including the 5 above referred to) are still pending; and the balance of the applications (19) have either been settled by the parties, withdrawn or abandoned.

In the matter of conciliation, the good offices of the Board having been accepted by either one or both of the parties in 60 cases, 31 of these were settled in this manner and 5 were submitted to arbitration; in the remaining 24 cases no definite

results have thus far been obtained. In addition, 59 cases have been filed, making a total (exclusive of the 12 arbitration cases now pending) of 505 matters acted upon or considered by the Board. The advice and the services of the Board have been sought in various other matters of concern to both employer and employee.

No attempt is made to present a detailed statement of activities; the following however is cited as an example of what is being accomplished through conciliation. On January 28, 1920, about 1,500 men employed as freight handlers at the local docks and freight sheds of the Boston & Maine and Boston & Albany Railroads struck as a result of being unable to obtain either action on their claims for increased wages (which had been pending for some time), or definite information as to when a decision would be rendered by the Director-General of Railroads at Washington. It was apparent that this strike, if continued, would create a very serious situation. It would interfere with the movement of freight, increasing the congestion due to the severity of the weather; it would render imminent a shortage in the food supply; interrupt the general channels of business; and ultimately would result in throwing a great number of men out of employment. It did, in fact, occasion a cessation of work for about 1,500 longshoremen.

On January 29 the Board conferred with the representatives of the employees, and, after investigating and ascertaining the cause of the strike, obtained their assurance that the employees would in all probability return to work if the Director-General of Railroads would fix a date on or before which a decision would be rendered, regardless of whether the decision was or was not in their favor. The Board immediately communicated with the office of the Director-General at Washington, and on February 3 received information that he would render a decision on February 9. This information was given to the representative of the employees, who in accordance with their assurance to the Board voted to return to work, which they did on February 5. The Board at that time obtained the further assurance from these representatives that, if later any differences arose, they would confer with the Board in advance to ascertain if some means could not be

devised whereby any threatened labor controversy might be prevented.

Later, after the railroads were returned to private ownership and the matter of wages was before the Railroad Labor Board, the employees again became very restive by reason of what appeared to them to be an unnecessary delay in acting upon their claims. In accordance with their promise the representatives of the employees conferred on several occasions with the Board. The Board strongly advised them against taking any action, by strike or otherwise, which would prejudice their claim for increased wages then pending. This advice was accepted by the employees and the threatened trouble averted.

The work of the Board has greatly increased during the year, especially in arbitration cases. This increase is attributed in part to the fact that both employer and employee more and more recognize that arbitration offers a just and equitable method of adjusting differences. The greater portion of these cases arises where, under trade agreements entered into between employer and employees, differences which they are unable to adjust are submitted to arbitration. Many of these trade agreements expired during the year, and by reason of unsettled conditions the parties were unable to agree, in many instances, on wage schedules, which resulted in the question being submitted to arbitration.

The Board views with satisfaction the fact that such controversies as have arisen between the employees in the street railway service and their employers have either been adjusted or arbitrated, and labor controversies have thereby been averted.

The consolidation of departments has proved of service in securing a more nearly complete and accurate list of the labor controversies arising. Working in conjunction with the Division of Statistics of this Department the Board has now the benefit of additional information received by that division. The Board does not attempt to give any facts concerning the loss of time and money by reason of labor controversies, as these data are compiled by the Division of Statistics. Following is a list of industries in which joint applications for ar-

bitration have been filed, with the issues arbitrated thereunder, and also a list of industries investigated by the Board as a conciliator, with the issues in controversy. The decisions of the Board will be printed in a separate volume.

The Board takes this opportunity to extend to the parties with whom it has had dealings its most sincere appreciation of their assistance and co-operation. It trusts and believes that a continuation of these relations will inure to the benefit of the Commonwealth.

LIST OF INDUSTRIES AFFECTED AND PRINCIPAL DIFFERENCES IN CONCILIATION AND ARBITRATION CASES.

CONCILIATION.

Industries affected.

Automobile.	Last making.
Baking.	Lumber.
Bookbinding.	Mattress.
Boxmaking.	Machinery, patterns and tools.
Building.	Novelties.
Clothing.	Orchestra.
Coal.	Public Employment.
Dyeing.	Pianos.
Foundry.	Shoes.
Furniture.	Sugar refinery.
Gas manufacture.	Textile.
Granite.	Transportation.
Hair conditioning, etc.	Wool.
Hotel.	

Principal Differences.

Closed shop.	Hours.
Distribution of work.	Individual contracts.
Discharge.	New agreement.
Discontinuance of a department.	Recognition of union, etc.
Discontinuance of bonus.	Refusal to negotiate.
Employment of non-union men.	Wages.
Factory conditions.	

ARBITRATION.

<i>Industries affected.</i>	<i>Issues arbitrated.</i>
Baking.	Wages.
Bookbinding.	Distribution of work.
Boxmaking.	Discharge.
Brewery.	Discharge.
Building.	Wages.
Gas and electric light plant.	Wages.
Hotel.	Wages.
Last making.	Wages.
Motors.	Wages; classification of employees.
Poultry dealers.	Wages and hours.
Shoemaking.	Wages.
Tackmaking.	Wages and hours.
	Date of agreement.
	Discharge.
	Measurement of heels.
	Wages.

FINANCIAL STATEMENT.

Appropriations: —

Salaries,	\$4,700 00
Experts,	13,800 00
Contingent expenses, including travel,	6,000 00
	<hr/> \$24,500 00

Expenditures: —

Salaries,	\$4,699 99
Experts,	10,655 00
Contingent expenses, including travel,	5,700 68
	<hr/> 21,055 67

Unexpended balance,	\$3,444 33
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Respectfully submitted,

EDWARD FISHER,
HERBERT P. WASGATT,
SAMUEL ROSS,

Associate Commissioners.

REPORT
OF THE
MINIMUM WAGE COMMISSION

REPORT OF THE MINIMUM WAGE COMMISSION.

To the Commissioner of Labor and Industries.

The Minimum Wage Commission herewith respectfully submits the following report which contains an account of the investigations and proceedings conducted during the fiscal year ending November 30, 1920.

ORGANIZATION AND FUNCTIONS.

Through the consolidation of State departments, December 1, 1919, the functions of the former Minimum Wage Commission were transferred to the three Associate Commissioners of the Department of Labor and Industries, who, when acting in minimum wage matters, are designated the Minimum Wage Commission. The work is conducted by the Division of Minimum Wage, and is under the immediate supervision of the Assistant Commissioner.

The duties of the Commission, as in the past, cover four main lines of activity. These are the investigation of wage conditions in occupations where women are employed; the organization of wage boards to determine minimum rates for women and minors; the entering of decrees based upon the determinations of the boards; and the inspection of establishments covered by decrees to ascertain compliance with their provisions.

SUMMARY OF THE WORK FOR 1920.

In view of the work in progress at the time of reorganization, it was decided to complete the unfinished business before undertaking new activities. Consequently the major part of the work during the year just ended has consisted in carrying out this program. The wage boards which had been authorized have been convened, and the wage investigations planned have been conducted. In addition, complete inspections have

been made under all of the decrees entered this year, as well as under five of the decrees entered by the former commission.

Wage decrees establishing minimum rates for women have been entered for five occupations. Of these, three represent initial decrees and two supersede earlier ones. Three wage boards, including one new board, and two reconvened boards are in session at the present time.¹

The first half of the year was characterized by a continued increase in the cost of living. This increase has been reflected to some extent in the minimum rates recommended by the wage boards. The decrees entered during this period represent the highest minima established in the State.

Legislation providing for greater elasticity in the operation of the law with respect to the formation of wage boards and the revision of rates has been enacted. An outline of the various activities conducted during the year with a detailed account of the more important lines of work is given in the sections that follow.

OUTLINE OF ACTIVITIES.

Publications.—The following publications have been issued:—

Seventh Annual Report of the Minimum Wage Commission, Public Document No. 102.

Second Report on the Wages of Women employed in Corset Factories in Massachusetts, Bulletin No. 21.

Second Report on the Wages of Women employed in Paper Box Factories in Massachusetts, Bulletin No. 22.

Report on the Wages of Women employed in the Manufacture of Minor Lines of Confectionery and Food Preparations, Bulletin No. 23.

In addition a new and revised edition of the Handbook of Information for Wage Board Members has been published, and a circular giving minimum wage legislation to date, issued (Labor Law Leaflet No. 1).

Several of the early bulletins and decrees which were out of print have been reprinted.

¹ These are the minor confectionery and food preparations wage board, the office and other building cleaners wage board (reconvened), and the men's furnishings wage board (reconvened).

Wage Boards. — During the year wage boards for the following occupations have been in session: —

Corset board (established by the former commission; work completed under the present Commission).

Men's clothing and raincoat board (reconvened by the former commission; work completed under the present Commission).

Knit goods board (established by the former commission; work completed under the present Commission).

Women's clothing board (reconvened by the former commission; work completed under the present Commission).

Paper box board (established by the former commission; work completed under the present Commission).

Men's furnishings board (reconvened by the former commission; work conducted under the present Commission. In session).

Office and other building cleaners board (reconvened, and work conducted under present Commission).

Minor lines of confectionery and food preparations board (authorized by the former commission; board organized and work conducted by the present Commission. In session).

Hearings. — Public hearings with regard to the acceptance of wage board recommendations as provided by law have been held for employers manufacturing men's clothing and raincoats, women's clothing, knit goods, paper boxes and corsets.

Decrees entered. — Decrees fixing minimum rates for women and girls in the respective occupations represented have been entered by the Commission as follows: —

For corset factories, a minimum rate of \$13, effective March 1, 1920.

For women's clothing shops, a minimum rate of \$15.25, effective July 1, 1920.

For men's clothing and raincoat factories, a minimum rate of \$15 a week, effective Feb. 1, 1920. (The recommendations of the men's clothing and raincoat wage board, on which this decree is based, had been provisionally approved by the former commission.)

For knit goods factories (manufacturing sweaters and miscellaneous knit goods), a minimum rate of \$13.75, effective July 1, 1920.

For paper box factories, a minimum rate of \$15.50, effective July 1, 1920.

Inspections. — Inspections to determine compliance with the Commission's recommendations have been made under the decrees listed below. They include all of the decrees entered in 1920, and five of those entered in 1918 and 1919.

Occupations.

Candy.	Millinery (retail).
Canning and preserving.	Muslin underwear.
Corset.	Office and other building cleaners.
Knit goods.	Paper box.
Men's clothing, reconvened.	Women's clothing.

Enforcement of Decrees. — Full compliance has been secured under all of the decrees, with the exception of those for women's clothing and paper box factories. Although a number of cases have been adjusted through reinspection, there are still several cases in women's clothing shops, and a considerable number in paper box factories, outstanding.

Investigations. — During the year the Commission has investigated the wages paid to women employees in two occupations. These are druggists' preparations, compounds and proprietary medicines, and stationery goods, envelopes and miscellaneous paper goods.

LEGISLATION ENACTED IN 1920.

Legislation increasing the powers of the Commission with respect to the selection of wage board members, and with respect to the reconvening of wage boards, has been enacted by the General Court during the past year. These changes are effected by two amendments to the law based upon recommendations of the Commission.

The first amendment¹ is intended to give the Commission opportunity for choice in making wage board appointments in order to insure fair representation for the various interests affected by the work of the boards. Formerly it was possible for employers or employees to determine the selection of members by nominating only the number of candidates required for the places on the board. The law now provides that unless twice the number of nominations required are received, the Commission shall appoint not less than half of the persons so nominated, and may fill the remaining places by appoint-

¹ General Laws, chapter 151, section 2.

ments made directly from employers or employees, as the case may be.

The other amendment¹ makes it possible for the Commission, on its own initiative, to reconvene a wage board when in its opinion such action is necessary to meet changes in the cost of living. Previously it was impossible to take such action except on petition from employers or employees in the occupation covered by the decree. As this provision of the law was not very generally known it was seldom exercised; consequently a decree once entered was apt to remain unchanged regardless of variations in the cost of living. The legislation enacted this year provides for greater flexibility in the operation of the law.

RESULTS OF INVESTIGATIONS.²

A summary of the results of the two wage investigations conducted by the Commission in 1920 is given below.

Wages of Women employed by Firms manufacturing Druggists' Preparations, Compounds and Proprietary Medicines.

An inquiry into the wages paid to women employed in establishments manufacturing druggists preparations, compounds and proprietary medicines was made by the Commission in the spring of 1920. The field work for this investigation was conducted in April. The time covered by the study is the three-month period, January through March, 1920. Agents of the Commission visited 50 establishments representing 10 localities. Pay-roll records for women employees for the three months specified were secured from 33 firms. Individual wage records were secured for 2,180 women employed by these firms. Of this number, 1,485 records were available for tabulating average weekly earnings. The remainder, because of insufficient data, could not be used for this purpose.

The concerns engaged in this business are, for the most part, comparatively small, the majority employing less than

¹ General Laws, chapter 151, section 5.

² Tables showing the wage situation in the industries investigated are on file in the office of the Commission.

20 women. The scope of the industry is represented by such products as patent medicines for the cure or mitigation of disease, patent compounds not intended for medical use, perfumery and cosmetics.

The work performed by women in these establishments is mainly unskilled or semi-skilled. The majority are employed in filling, labeling and packing. In the smaller concerns there is little division of labor, the women changing from one process to another as need arises. The prevailing method of payment is by the week, 95 per cent of the entire number of women for whom records were used being on time rates. A few of the more skilled workers are on piece rates. These include the women with the highest earnings.

Of the 1,485 women for whom wage data were available, 88.6 per cent had actual earnings below \$15 a week, and 68.5 per cent less than \$12 a week. In the case of the adult women, 93.1 per cent were scheduled to receive less than \$15 a week for full-time employment, and 21 per cent less than \$12 a week. Since the majority of the workers are on time rates, the information secured regarding rates gives a fair idea of wage conditions in the occupation. For the majority of the women, both rates and earnings are below the minimum found by the wage boards in session during the past year as representing the necessary cost of living. As part of its investigation the Commission has arranged for a public hearing for employers in the occupation with reference to the question of establishing a wage board.

Wages of Women employed in Establishments manufacturing Stationery Goods and Envelopes.

A study of the wages of women employed in the manufacture of stationery goods, envelopes and miscellaneous paper products was made by the Commission in May following the completion of the field work in the study of druggists' compounds and proprietary medicines. This investigation covered 11 cities, and included visits to 36 establishments. Pay-roll records for women employees for the three-month period, February through April, 1920, were secured from 26 firms and

for 2,851 individuals. Of these records, 2,256 were available for tabulation.

The establishments included in the study manufacture commercial paper, letter heads, tablets, pads, notebooks, stationery, tissue paper, filing equipment, greeting and colored post cards, calendars, crayons and envelopes. Women comprise nearly two-thirds of the working force in the industry. A considerable part of the work performed by women is represented by machine tending and bench work. Approximately two-fifths of the women employed are machine operators. Some of the processes involve considerable skill; others are semi-skilled mechanical operations. There is consequently marked contrast in the earnings of the different groups of workers.

Over one-half of the women are on piece rates. These include a majority of the machine operators, and represent the highest paid workers. From the tabulation of the wage returns it appears that 23.5 per cent of the women have earnings of \$18 and over a week. On the other hand, 55.5 per cent have earnings below \$15 a week, and 27.4 per cent earnings below \$12 a week. Of the 1,158 women for whom rates were available, 64.2 per cent are scheduled to receive less than \$15 a week, and 11.3 per cent less than \$12 a week. The contrast between these workers and the skilled employees is marked. Of the 976 piece-rate workers, only 21.5 per cent have potential earnings for full-time employment below \$15 a week. In connection with the figures, however, it should be remembered that they represent not actual earnings, but possible earnings under the most favorable conditions.

RESULTS OF WAGE BOARD ACTIVITIES.

Eight wage boards have been in session during the year. Of these, five have completed their work, and three are still sitting. Four of the boards, those for men's clothing, women's clothing, men's furnishings, and office and other building cleaners, were reconvened. Two boards, the corset and the paper box, were the second to be established for their respective occupations. With the exception of the wage board for office and other building cleaners, all of the boards were established or authorized prior to the consolidation. Three boards, those

for corsets, knit goods, and men's clothing, were in session at the time the reorganization was effected. One of these, the men's clothing and raincoat wage board,¹ had submitted its report. An account of the work of the various boards for the year is given in the following pages.

Corset Wage Board.

The work of the corset wage board was practically completed at the time of the reorganization. Its report recommending a minimum rate of \$13 a week, and special rates of \$8 and \$10, respectively, for minors and inexperienced workers, was submitted on December 9, 1919. This report was signed by six of the seven members. The Commission provisionally approved the determinations, and gave a public hearing thereon for employers in the occupation. At this hearing no one appeared in opposition to the board's determinations. The Commission thereafter finally approved the determinations and entered a decree for the occupation to become effective March 1, 1920. With this exception, all of the boards in session during the year have submitted unanimous reports.

Men's Clothing and Raincoat Wage Board.

The determinations of the men's clothing and raincoat wage board, providing a minimum rate of \$15 a week for experienced women, and special rates of \$7 and \$10 a week for beginners and apprentices, according to their length of employment, had been provisionally approved by the former commission. A public hearing on the determinations was held by the present Commission on December 27, 1919. At this hearing no one appeared in opposition to the findings of the board. The Commission thereafter finally approved the determinations, and entered a decree for the occupation effective February 1, 1920.

This decree is of interest for several reasons. The wage board on whose recommendations it is based was the first board to be formally reconvened on petition for revision of rates. The findings represent an increase of approximately

¹ The men's clothing wage board submitted its report November 26, 1919. As the work of a board is not completed until final action has been taken on its determinations, it is included here, although all of its sessions were held during the preceding year.

50 per cent over the former findings with respect to the cost of living, and an increase of 66.7 per cent over the former award. The minimum established was considerably higher than any rate previously entered, the nearest being the \$12.50 rate for the candy occupation.

Knit Goods Wage Board.

A wage board covering all lines of knit goods, with the exception of standard lines of hosiery and underwear, was established in the fall of 1919. This action was taken following an investigation into the wages of women employed in the manufacture of sweaters and miscellaneous knit goods.

After nine meetings, the board, on February 19, 1920, submitted a report of its determinations. The board found the cost of living for a self-supporting woman in the occupation, \$15.30. Owing to the financial condition of the industry a minimum rate of \$13.75 was recommended for experienced workers, with a special rate of \$8.50 for all others.

After provisionally approving this report and holding a public hearing thereon, at which no one appeared in opposition, the Commission finally approved the determinations of the board and entered a decree to become effective July 1, 1920.

Women's Clothing Wage Board.

Arrangements for reconvening the women's clothing wage board were made in the fall of 1919, following a petition from employees in the occupation for a revision of rates. Owing to difficulties in filling vacancies the board did not meet until January 14, 1920. Ten of the 15 members of the original board served on the reconvened board. The remaining vacancies were filled by appointments from names submitted by employers and employees in the occupation. The board held nine meetings, and on March 31, 1920, submitted a unanimous report of its determinations. The majority of the members were in favor of a cost of living budget of \$15.25, representing an increase of approximately 70 per cent over the budget adopted by the board in its former sessions. Basing its findings upon this estimate, the board recommended a minimum wage of \$15.25 a week for an experienced worker, and rates of

\$10 and \$12 for minors and apprentices. After a public hearing, at which no opposition was presented, the Commission approved these determinations and entered a decree to become effective July 1, 1920.

Paper Box Wage Board.

The establishment of a wage board for the paper box occupation was authorized by the former commission, following an investigation into the wages of women employed in paper box factories, conducted in the spring and summer of 1919. The completion of the board and the supervision of its work were under the direction of the present Commission. This was the second board to be established for the occupation, and, like the first, was made up of 15 members. The first meeting was held on March 18, 1920. After four meetings the board, on April 29, 1920, submitted a unanimous report to the Commission, presenting an estimate of \$15.50 as the amount required to meet the cost of living, and recommending that this amount be fixed as the minimum for an experienced worker, and that rates of \$9 and \$11 be fixed for learners and apprentices according to age. After a public hearing, at which three employers appeared in opposition, the Commission, after reviewing the matter, finally approved the determinations and entered a decree effective July 1, 1920.

Men's Furnishings Wage Board.

Acting on a petition from employees in the industry for a revision of rates, the former commission, in the fall of 1919, voted to reconvene the wage board for the men's furnishings occupation. In accordance with this recommendation the board was brought together by the present Commission in the spring of 1920. Nine of the 17 members on the original board served on the reconvened board. The vacancies were filled by appointments from nominations submitted by employers and employees in the occupation. One of the representatives of the public was appointed chairman in place of the former chairman who resigned. Another representative of the public was appointed directly to fill the remaining vacancy. The board has held eight meetings, the first on April 14, and is still in session.

Minor Lines of Confectionery and Food Preparations Wage Board.

An inquiry into the wages paid to women employed in the manufacture of minor lines of confectionery and food preparations was conducted in the fall of 1919. As a result of this investigation the Commission recommended that a wage board be established. This recommendation was carried out in the fall of the present year, when a board of 15 members was formed for the occupation. Its scope includes, in addition to minor lines of confectionery, fruit syrups, soda fountain supplies, flavoring extracts and miscellaneous food preparations. The board has held four meetings up to the close of the period covered in this report, the first being on October 21. It is still in session.

Office and Other Building Cleaners Wage Board.

The first wage board to be reconvened under authorization of an amendment enacted this year, permitting the Commission to take such action without petition, was that for office and other building cleaners. This is a board of 15 members. There were two vacancies, one for chairman and one for a representative of employers. Both were filled by appointments made by the Commission. The board has held five meetings during the present year, the first being on October 28, and is still in session.

Summary.

In connection with the wage board work for the year, certain developments are of significance. With one exception, all of the wage boards have submitted unanimous reports. Only one board has recommended a minimum rate below its findings as to the cost of living. The boards have shown a tendency to consider a somewhat higher standard of living than formerly, as indicated by the inclusion in their budgets of such items as sickness insurance, reserve for deficiency and self-improvement.¹ The rates established have been considerably higher than those of previous years, three of the rates

¹ In all, 7 boards have made provision for this item. Of these, 3 were boards reporting during the past year.

entered being for \$15, \$15.25 and \$15.50, respectively. All were based upon the unanimous recommendations of the wage boards. The problem of adjusting the rates to meet changes in the cost of living has been considered by several boards. One board, that for the paper box occupation, recommended that the Commission revise the rates periodically upward or downward as the cost of living changes, using the index numbers prepared by the United States Bureau of Labor Statistics as basis for the adjustments. Another board, that for the women's clothing occupation, in its report calls attention to the problem of seasonability and the inadequacy of any attempt that might be made to provide in the budget for the attendant unemployment. The board recommended that a study of seasonability be made by the Department of Labor and Industries.

ENFORCEMENT OF WAGE DECREES.

Instead of presenting a report of the inspection work under each decree, as has been done in previous years, the Commission is giving only a summary of the entire inspection. This is in accordance with the policy adopted of not publishing wage statistics for any occupation. The tables and text showing the wage situation and the adjustments made under the individual decrees are on file in the office of the Commission, and are available for any one desiring them. The summary follows.

In the inspection work for the year visits were made by the Commission's agents to 1,126 establishments located in 67 cities and towns. Wage records were secured for 23,349 women and girls employed in these establishments. In addition, a number of establishments were visited several times in the follow-up work to adjust cases of non-compliance. In all, 983 cases of non-compliance were found. Of this number, 681 have been adjusted, — 366, or more than one-half, by increase in wages, and 71 by transfer of the workers in question from time rates to piece rates, at which they were able to earn the minimum or more. Special licenses were granted to 44 women, and 21 additional cases were adjudged of special license type. In 160 instances the women voluntarily left the employ of their respective firms. As far as could be ascer-

tained, this was due not to the effect of the decree, but to the general unrest and consequent high labor turnover which characterized the first half of the year, and to the business depression and attendant unemployment of the latter half of the year. In 20 cases women who were earning less than the minimum were discharged.

There are 301 cases unsettled at the close of the period covered by this report. Of these, 91 represent non-compliances under the women's clothing occupation decree; and the remainder, 210, are non-compliances under the paper box occupation decree. With the exception of these two industries, full compliance has been secured under all of the Commission's decrees. These cases, although numerically large, represent only 1.3 per cent of the entire records included in the inspection returns for the year. Reinspection for the purpose of adjusting these cases has already been instituted. As a result of this work the number of non-compliances will probably be materially reduced. It is hoped that all of the outstanding cases may be settled by this method. The result of the inspection work under the different decrees is shown in the table on page 77.

Although the primary purpose of the inspection is to ascertain compliance with the wage awards, the result is of interest in indicating the effect of the decrees upon the general level of wages in the occupations covered. In this connection it should be noted that the adjustments mentioned in the preceding sections refer to the settlement of non-compliances, and do not furnish an index of the actual wage advances. The majority of the firms affected make the necessary adjustments on or before the date the decree goes into operation, so that at the inspection following that date their establishments show full compliance. In the case of an initial inspection, comparison of the wage situation found at the time of the inspection with that existing at the preliminary investigation affords the best evidence of the change which is available. For all of the recently entered decrees, such comparison shows a substantial increase in wages. Other factors besides the decrees have undoubtedly contributed to this advance; how many, and to what extent, it is impossible to determine. In view, however, of the absence of any very marked advances in

the industries of the State in general during this period, it is safe to ascribe a considerable part of the increase in these particular industries to the effect of the wage investigation and subsequent award.

An interesting development in connection with the inspection work is the indication that the adoption of minimum rates tends to promote industrial efficiency. In 71 of the cases coming up for adjustment girls who were not considered worth the minimum were changed from time work to piece work at the regular piece rate of the factory, and in each case were able to earn the minimum or over. In this connection the method employed by a large manufacturer in meeting the requirements of the decree is significant. Each of the foremen in the factory was held responsible for seeing that the girls under his supervision earned the minimum. This was accomplished by ascertaining that the employees were properly instructed about their work, and by adjusting them to the tasks for which they were best suited. When a girl fell below the minimum the foreman looked into the matter to see whether she needed more training, or whether she was on the right kind of work. She was then given further instruction or transferred to another process, as the situation warranted. As a result of this method the firm reported that not only were they able to meet the decree without discharging a single employee, but the efficiency of their workers had been increased and production stimulated.

That all who are affected by the decree do not take this attitude is evidenced by the 301 cases still outstanding, the largest number at any time in the Commission's history. It should be recognized that a great deal of time and considerable expense is involved in the effort to adjust these cases; that even when they are adjusted, as many, perhaps all of them, will be, it is possible to secure the payment of the minimum only from the date the adjustment is effected, and not from the date the decree became operative. The situation resulting is unfair to the employees, who are deprived for several months of the benefit of the award; it is unfair to the employers who accept the decrees promptly and abide by them; and it is unfair, in the disproportionate cost of the adjustment, to the commission and to the public.

Tabular Summary of Reinspections for 1920.

	Candy.	Men's Clothing.	Corset.	Office Building.	Knit Goods.	Women's Clothing.	Paper Box.	Muslin Underwear.	Canning and Preserving.	Retail Millinery.	Total.
Number of records secured,	7,050	2,578	1,612	1,350	1,096	1,664	4,831	1,719	734	715	23,349
Number of firms visited,	110	182	15	171	29	177	123	81	33	205	1,126
Number with full compliance,	82	173	8	169	26	117	55	79	29	204	942
Number of cases of non-compliance,	206	12	30	3	4	157	564	2	4	1	983
Adjusted,	206	12	30	3	4	66	354	2	3	1	681
Wages raised,	177	7	11	3	3	49	110	2	3	1	366
Earning more on piece,	-	-	3	-	-	-	68	-	-	-	71
Special license,	3	5	6	-	1	4	25	-	-	-	44
Special license type,	-	-	4	-	-	2	15	-	-	-	21
Left,	8	-	6	-	-	10	135	-	1	-	160
Discharged,	18	-	-	-	-	1	1	-	-	-	20
Pending,	-	-	-	-	-	91	210	-	-	-	301

OUTLOOK FOR THE FUTURE.

Minimum wage legislation has been in effect in Massachusetts now for something more than seven years. The experience gained during this period serves to emphasize certain problems connected with the operation of the law in its present form. Principal among these problems are the revision of rates to meet changes in the cost of living, provision for securing greater uniformity in rates, and the question of uniform enforcement of decrees.

Various amendments have been enacted strengthening the law in certain respects, particularly with reference to making inspections and requiring the keeping of records and the posting of notices, as well as providing for greater flexibility in the selection of wage board members and in the reconvening of wage boards. The law, however, in its essential characteristics remains unchanged. It is recommendatory in its application. It requires separate decrees for each occupation considered. Decrees once entered can be revised only through the action of a wage board.

Revision of Rates.

Although the Commission now has authority to reconvene a board without waiting for a petition, if in its opinion such action is necessary to meet changes in the cost of living, the process is still cumbersome, and several months must necessarily elapse before a new rate can be put into operation. Some modification which would insure prompt and definite action would seem desirable. One of the wage boards has recommended that the Commission revise the rates periodically to correspond with changes in the index numbers for the cost of living. This would not only give much-needed elasticity to the rates, but would afford an impartial and scientific basis for revision.

Uniformity of Rates.

As the work of the Commission develops, and an increasing number of decrees are put into operation, each with varying provisions and requirements, the importance, from an ad-

ministrative point of view, of greater uniformity in rates becomes apparent. There are, however, other considerations involved more essential than economy in time and in expense of operation. In fairness to the employers and employees affected by the decrees there should be greater uniformity. In the case of an establishment which is manufacturing a number of distinct lines which would bring it under several decrees, there is not only the disadvantage of being subjected to numerous inspections, but the practical necessity of being obliged to put the highest rate into operation for all lines, although competitors in some of these lines may enjoy a lower rate. On the other hand, employees in an occupation with a low minimum rate fail to understand why the cost of living should be considered less for them than for women in an occupation covered by a higher rate, and feel that they are discriminated against unfairly. This situation causes dissatisfaction among employees, and during periods of labor shortage tends to increase the labor turnover. It is true that the provision of the law which requires the boards to take into consideration the financial condition of the industry is responsible for part of the variation in rates for different occupations. By far the greater part of the variation, however, is due to the delay in revising decrees that are out of date, and to the fact that wage boards sitting at the same time, and basing their recommendations upon their findings as to the cost of living, frequently reach conclusions that differ considerably with respect to the minimum and with respect to the conditions qualifying the minimum. As a matter of fact, the actual cost of living for a working woman at a given time does not vary greatly from one occupation to another. So long, however, as the work is performed by separate wage boards, these variations will probably continue.

One of the most serious objections to the system of separate wage boards, and consequently separate rates for each occupation, is the length of time involved in covering the different employments. This means that many women are deprived of the protection intended by the law; that many employers are subjected to unfair competition; and that the expense of operation is greatly in excess of what it would otherwise be.

The educational value of the wage board work is one of the strongest arguments for continuing the present method. The special problems of each occupation are given consideration in this way, and the decrees, based as they are on the recommendations of employers and of employees in a particular industry, are perhaps more readily accepted than otherwise. It should be possible, however, to retain much that is of value in the wage board form of procedure under a system that would insure more uniform results. An arrangement that would permit the establishment of a single rate for large groups of occupations, or for all occupations, might very well utilize the medium of a wage board. Such a board should include labor, management and the public, and should be made up of representatives nominated and selected as at the present time, only instead of representing an individual industry it would represent all industries. It would be the function of a general board like this to determine the cost of living and the minimum rate for the adult woman of ordinary ability. Separate boards could be established on petition to consider the question of special rates for minors and apprentices in occupations where these classes are important; and also to consider the financial condition of a particular industry if such action should be felt necessary. These are suggestions that look toward the future development of the work. Eventually some change will be necessary to meet the problem created by a number of decrees, each with distinct provisions, with varying rates, and in some instances with conflicting jurisdiction.

The Question of Uniform Enforcement.

The most serious problem in minimum wage work is that of securing uniform enforcement of the decrees. Without such enforcement the purpose of the law is defeated. It is impossible to afford protection to all the women and girls needing such protection. It is impossible to insure impartial treatment for all employers affected by the decrees. The law in its present form provides no direct penalty for non-compliance other than publicity. So far the Commission has not been obliged to resort to advertisement. Compliance with the decrees has been secured through the voluntary co-operation of

employers, and the adjustment of cases outstanding has been secured through repeated inspections, follow-up letters and conferences with individual employers. Although this method has involved considerable time and expense, it has proved effective. It should be noted in this connection that the Commission has been able to make complete inspection to determine compliance only since the decision of the Supreme Judicial Court, rendered in the fall of 1918. The fact that for eighteen months following this decision there was a continued rise in prices and a constant labor shortage doubtless made it easier to secure compliance with decrees entered under a recommendatory law than might otherwise have been the case. The real test of such a law will be in the ability to secure compliance during a period of falling prices and unemployment. Difficulties have already been encountered, due in part to the situation first mentioned, and in part to dissatisfaction with the law in its present form. Although reinspections and follow-up work have materially reduced the non-compliances, there are still a considerable number of cases outstanding. If the Commission is able to secure adjustment of these cases by the methods previously described, that will demonstrate the effectiveness of the present law. If, however, compliance with the decrees cannot be secured under the existing legislation, there may be need for such modification of the law as will insure its impartial enforcement.

RECOMMENDATIONS REGARDING APPROPRIATION.

An appropriation of \$18,600 was authorized for the use of the Division for 1920. An account of the expenditures under this appropriation is given in the financial statement following. The estimate for 1921 is \$19,300, an increase of \$700. This includes an advance of \$300 in wage board expenses to cover increase in railroad rates; \$200 in contingent for expense of agents; and \$200 in salaries. In connection with the salary increases recommended, it should be noted that with three exceptions the employees in this Division did not receive any increases in 1920.

FINANCIAL STATEMENT.

Appropriations.

Salaries,	\$12,000 00	
Compensation and expenses of wage boards,	3,000 00	
Traveling and contingent expenses,	3,600 00	
	<hr/>	\$18,600 00

Expenditures.

Salaries,	\$11,096 98	
Compensation and expenses of wage boards,	2,988 72	
Traveling and contingent expenses:—		
Traveling expenses,	\$799 26	
Telephone and telegraph,	29 27	
Express and messenger,	8 45	
Stationery and office supplies,	580 34	
Printing,	1,668 63	
Postage,	197 30	
Books, periodicals, clippings,	140 23	
Typewriting,	138 96	
	<hr/>	3,562 44
		<hr/>
		\$17,648 14

Unexpended balance reverting to the State
treasury:—

Salaries,	\$903 02	
Compensation and expenses of wage boards,	11 28	
Traveling and contingent expenses,	37 56	
	<hr/>	951 86
		<hr/>
		\$18,600 00

Respectfully submitted,

EDWARD FISHER.
HERBERT P. WASGATT.
SAMUEL ROSS.

MEMBERSHIP OF WAGE BOARDS IN SESSION IN 1920.

The Commission takes this opportunity to acknowledge the generous assistance of the men and women who have freely given their time to public service on wage boards, and to whose devoted efforts is due the success of the wage board work.

Following is a list of the members of the wage boards that were in session during the year:—

CORSET WAGE BOARD.

Representing the Public.

Chester T. Porter, *Chairman.*

Representing the Employers.

Albert W. Darling.

Henry H. Hayes.

John J. Linehan.

Representing the Employees.

Edith Farnam (Mrs.).

Mary Madden.

Margaret Veazie (Mrs.).

KNIT GOODS WAGE BOARD.

Representing the Public.

Edward C. Mason, Esquire, *Chairman.*

Representing the Employers.

Stephen Bowen.

Samuel C. Feuerstein.¹

Samuel P. Kaplan.

Representing the Employees.

Fannie Cherkofski.

Annie Markell.

Mary Gordon Thompson (Mrs.).

MEN'S CLOTHING WAGE BOARD (RECONVENED).

Representing the Public.

Charles C. Ramsay, Esquire, *Chairman.*

Maurice B. Hexter.

Frances Van Baalen.²

Representing the Employers.

Morris B. Anderson.

Benjamin Asher.²

Joseph Barron.²

Walter C. Billings.

Ira F. Burnham.²

Luther C. White.

Representing the Employees.

Nathan Biller.²

Jack Blume.²

Sarah F. Landsberg.

Leon Lebovitz.²

Fred Monosson.

Harry Nuremberg.

¹ Appointed in place of Frank O. Bryan, resigned, November 28, 1919.

² Members who served on the first wage board.

MEN'S FURNISHINGS WAGE BOARD (RECONVENED; IN SESSION).

*Representing the Public.*Lawrence G. Brooks, ¹ Esquire, *Chairman*.

B. Preston Clark.

Alice H. Grady. ¹*Representing the Employers.*Moses Brody. ¹

Herbert G. Evans.

A. G. Hildreth. ¹

P. A. Hodgdon.

Robert Pritchard.

Frank J. Whitney. ¹

A. M. Ziegler.

*Representing the Employees.*Margaret C. Hartnett. ¹

Clara Luftman.

Anna Stearns Ober (Mrs.). ¹Ida Plotkin. ¹

Nettie Simons.

Christine Tucker.

Anna Weinstock. ¹

MINOR LINES OF CONFECTIONERY AND FOOD PREPARATIONS WAGE BOARD (IN SESSION).

*Representing the Public.*Joseph D. Taylor, Esquire, *Chairman*.

Mary P. Follette.

Charles A. Littlefield.

Representing the Employers.

Harold C. DeLong.

Norman S. Dillingham. ²

R. Lee Smith.

John Rickaby.

C. S. M. Tice.

C. E. Vawter. ³*Representing the Employees.*

Ida Farioli (Mrs.).

Susan G. Haley (Mrs.).

Margaret E. McAfee.

Isabelle McNulty (Mrs.).

Alice V. Murphy.

E. Mary Post (Mrs.).

OFFICE AND OTHER BUILDING CLEANERS WAGE BOARD (RECONVENED).

*Representing the Public.*Edward G. Fischer, Esquire, *Chairman*.Wenona O. Pinkham (Mrs.). ²Elmer C. Potter. ²*Representing the Employers.*William B. Baker. ²Daniel F. Carew. ²Robert E. L. Chapman. ²Frank A. Ewart. ²Walter Rose. ²

Archibald Williams.

*Representing the Employees.*Agnes Bonney (Mrs.). ²Elizabeth Dominaitis (Mrs.). ²Bridget Dunn (Mrs.). ²Katherine Leary (Mrs.). ²Margaret Masterson (Mrs.). ²Nora Regan (Mrs.). ²¹ Members who served on the first wage board.² Vice William A. Barton, resigned.³ Vice Oliver F. Kidder, resigned.

PAPER BOX WAGE BOARD.

*Representing the Public.*Nathan Heard, Esquire, *Chairman*.

Leonora S. Little (Mrs.).

Lothrop Withington, Esquire.

Representing the Employers.

Edward T. Churchill.

Joseph H. Perry.

Russell I. Rhodes.

Clarence E. Shaw.

George W. Sprague.

Edmund C. Wentworth.

Representing the Employees.

Lottie O. Baldwin.

Celia Crissell (Mrs.).

Molly Galvin.

Winifred Thompson Lane (Mrs.).

Julia McCleary.¹

Edith M. Thornton.

WOMEN'S CLOTHING WAGE BOARD (RECONVENED).

*Representing the Public.*Herbert B. Ehrmann,² Esquire, *Chairman*.Esther M. Andrews (Mrs.).²Robert G. Morse.²*Representing the Employers.*

Samuel Bloom.

Herman Feffer.²

Charles Franck.

David J. Goldberg.

Harris Gordon.²Joseph Rudy.²*Representing the Employees.*Emma Cashner.²Rose Doucett.²William H. Haskins.²Samuel Jacobson.²

Sarah Shanin.

Esther Sugarman.

¹ Vice Stella Marshall of Lowell, resigned.² Members who served on the first wage board.

REPORT
OF THE
DIRECTOR OF STANDARDS

REPORT OF THE DIRECTOR OF STANDARDS.

To the Commissioner of Labor and Industries.

I am submitting herewith my first annual report as Director of Standards for the fiscal year ending November 30, 1920. Although this office was not assumed by me until January 29, the report includes such activities of the Division of Standards as were recorded between December 1, 1919, when the Division was established under statutory provision, and the time of my assumption of the duties of Director of Standards.

ORGANIZATION AND FUNCTIONS.

In the consolidation of departments required by chapter 350, General Acts of 1919, the positions of Commissioner of Standards and Surveyor-General of Lumber were abolished, and all of the rights, powers, duties and obligations of these officials were assigned to the Director of Standards of the newly created Division of Standards. Although the duties and responsibilities thus imposed upon the Director of Standards cover a considerable range, he was fortunate in finding himself associated with an inspection and clerical force thoroughly imbued with the spirit of service and fully capable of performing any duty which might be assigned to them. Through their earnest co-operation, with that of local sealers of weights and measures throughout the Commonwealth, material progress has been made by the Division of Standards during the past year.

NEW LEGISLATION.

Following is a summary of legislation affecting this Division enacted at the regular session of the General Court for 1920:—

Chapter 45 authorizes the sealing as measures of milk bottles or jars having a capacity of one gill, and permitting the

marking of a definite filling point other than the level of the bottom of the cap or stopple on all milk or cream jars. The latter provision is designed to facilitate the delivery of full measure when milk or cream is pasteurized in the bottle.

Chapter 259 regulates the use of cans, molds and paper or fiber containers used in the sale of ice cream.

Chapter 325 provides for the approval of types of slot-weighing machines and automatic vending devices by the Director of Standards.

Chapter 369 authorizes the Director of Standards to assist manufacturers in standardizing their products, and to test weights, measures, instruments or mechanical devices used in determining wages or compensation for labor performed.

Chapter 418 regulates bakeries and bakery products. While this act relates principally to the sanitary conditions of bakeries, and of containers and vehicles used in the distribution of bakery products, it also establishes standard weights of loaves of bread in units of 1 pound, $1\frac{1}{2}$ pounds or multiples of 1 pound, and requires that all loaves of other than these standard weights must be marked with the weight of the loaf and the name of the manufacturer thereof. The Director of Standards is required to prescribe such rules and regulations as may be necessary for the enforcement of these provisions.

Chapter 551 empowers the Director of Standards, with the approval of the Commissioner of Labor and Industries, to establish and define grades and kinds of lumber, and to establish fees for the survey and measurement thereof. It also repeals the former statute relative to the sale of shingles, and requires the Director, with the approval of the Commissioner, to establish from time to time standard units of measurement to be observed in the sale of wooden shingles in this Commonwealth.

Chapter 591 makes certain additions and substantive changes in the laws relating to towns. Sections 20 and 21 of this act are in the nature of amendments to the hawkers' and peddlers' license laws. No material change is made excepting the use of a different phraseology in an effort to make the meaning of the statute more clearly apparent.

RULES AND REGULATIONS.

Under authority or direction of various statutes, rules and regulations have been prepared and promulgated as follows:—

1. Amended specifications and tolerances to be observed in the manufacture of clinical thermometers.

2. Rules and regulations to be observed in the manufacture and sale of bread.

3. Amended regulation for marking food in package form, requiring a statement of quantity of contents upon packages containing more than one-half avoirdupois ounce, or more than one-half fluid ounce, of any article used for food, drink, confectionery or condiment.

4. Units of measurement to be observed in the sale of wooden shingles.

5. Rules for grading lumber now being prepared.

PROPOSED ADDITIONAL LEGISLATION.

In view of the recent enactment of the General Laws, comprising the Revised Laws of 1902 and all subsequent changes therein and additions thereto, only a general public demand or urgent necessity would justify recommendations for additional new legislation at this time. During the last regular session of the General Court the President of the Massachusetts Ice Dealers' Association and all members of the ice committee, which functioned with the Public Safety Committee during the late war, joined with the Director of Standards in petitioning for legislation requiring ice to be weighed upon delivery, unless such weighing was expressly waived by the purchaser. Chiefly on account of the scarcity and consequent high cost of labor prevailing at that time this bill failed of enactment. As these abnormal conditions no longer prevail, the proposed legislation may be worthy of serious consideration by the incoming Legislature, should the matter be brought to its attention.

DIVISION PUBLICATIONS.

During the year a bulletin of twenty-six pages was published for the information of local sealers of weights and measures and others interested. This bulletin contained the

weights and measures legislation enacted by the General Court of 1920, with a brief synopsis of the salient features of these enactments and their effect upon existing statutes. It also included specifications and tolerances adopted for the guidance of sealers in their tests of gasoline-measuring devices, and much other information of particular interest to local sealers.

Two pamphlets of four pages each were also published. One of these contained the amended specifications governing the manufacture of clinical thermometers; the other included the new law relative to weights of bread, with the rules and regulations adopted under authority of that statute. Copies of the latter were mailed to each bakery in the Commonwealth and to each local sealer of weights and measures, an edition of 2,000 copies being necessary for this purpose.

MEASURING LEATHER.

The accurate measurement of upper leather, used in the manufacture of boots and shoes, presents a problem which can only be solved by the production of measuring devices of greater precision and constancy than any of those now in use. The statute empowers the Director of Standards to make such rules and regulations as he may deem necessary to insure the greatest possible accuracy in the use of these devices, and, under this authority, the speed of operation has been prescribed and other regulations have been adopted in an effort to minimize or eliminate mechanical errors. Operators of leather-measuring devices must secure a certificate of fitness from the Director of Standards as a prerequisite for their appointment and employment as measurers. Of 79 applicants examined during the past year only 35 received certificates of fitness, the other 44 being rejected as not possessing the necessary qualifications. Four disputes between buyers and sellers of leather were referred to this office for adjustment during the year, and 4,350 $\frac{3}{4}$ square feet of leather was officially remeasured in connection with these disputes, which involved some thousands of dollars. In three of these cases the leather was manufactured in other States and shipped to shoe manufac-

turers in Massachusetts, and in these cases it is understood that satisfactory settlements have been made upon the basis of percentage of shortage as found upon the official measurement. In the other case referred to, a slight shortage was found, but this was evidently the result of natural shrinkage caused by the length of time and the conditions under which this leather was stored. Massachusetts appears to be the only State having any statutory regulation of leather measurers and leather-measuring devices. In the absence of similar legislation in other States the shoe and leather industries of the entire country are confronted with conditions which may be worthy of the attention of Congress. Manufacturers of shoes and of leather, as well as the cutters in all shoe factories, are interested, the latter perhaps more vitally because of the fact that their tenure of service in any factory is dependent upon their ability to cut a certain number of pairs of shoes from a given quantity of upper leather. Hence, if the measurer's marks upon the various skins or sides of leather are erroneous, the results of such errors are more far-reaching than appears upon the surface.

CLINICAL THERMOMETERS.

Under the provisions of chapter 152, General Acts of 1917, four additional manufacturers of clinical thermometers have been authorized to seal as correct clinical thermometers manufactured by them and conforming to samples which have been approved by the Director of Standards. Inspections and tests have been made of clinical thermometers bearing manufacturer's seals, and as a result, in the case of two manufacturers the authority to seal their products was suspended. In each case the necessary authority was restored after a series of tests designed to demonstrate their ability to secure and maintain a sufficient degree of accuracy to warrant such action. Of 6,878 clinical thermometers tested in the Division laboratory during the year, 1,666, or 24.22 per cent, were condemned as inaccurate. The conditions revealed in the testing of clinical thermometers in this State have attracted the attention of physicians and health officials in various sections of the coun-

try. New York City has already made provisions for similar tests by the Health Department, and other States and municipalities are contemplating similar action.

LABORATORY WORK.

Following is the record of work performed in the laboratory during the year:—

Standards.

ARTICLE.	Adjusted.	Sealed.	Condemned.
Weights,	67	206	10
Measures,	—	29	—
Graduates,	—	32	—
Totals,	67	267	10

Clinical Thermometers.

Accurate,	5,142
Inaccurate,	1,666
Broken,	70
Total submitted,	6,878

Miscellaneous.

ARTICLE.	Tested.	Accurate.	Inaccurate.
Scales,	5	3	2
Weights,	27	21	6
Measures (liquid),	154	124	30
Measures (dry),	2	—	2
Cartons,	95	80	15
Milk jars,	2	2	—
Incubator thermometers,	6	6	—
Steel tapes,	3	3	—
Berry baskets,	3	3	—
Apple rings,	3	3	—
Keg (10 gallons),	1	—	1
Sphygmomanometers,	4	—	4
Miscellaneous,	6	2	4
Commodities,	7	5	2
Totals,	318	252	66

In addition to the above, 35 miscellaneous articles have been tested to determine their weight, volume or capacity. In connection with investigation of complaints, 91,501 yards of sewing thread and 419 $\frac{2}{3}$ yards of elastic fabric were measured.

FIELD WORK OF INSPECTORS.

Upon assuming office the Director of Standards found that the prevailing system of inspection required the making of numerous records, many of which were of no value and occupied time which the inspectors might use to better advantage. The inspectors were therefore instructed that an individual report of each inspection was unnecessary, except in cases where conditions found would warrant present criticism or future investigation. The following is a summary of these records, the majority of which involved calling the attention of the local sealer to conditions requiring correction. In a comparatively few cases it was deemed necessary for the inspector to prosecute.

Number of Inspections.¹

Stores,	3,547
Hawkers and peddlers,	252
Factories,	70
Garages,	747
Packages,	78
Itinerant venders,	41
Coal wagons,	76
Miscellaneous,	3
Total,	4,814

Weighing and Measuring Devices.

Sealed,	28,323
Unsealed,	3,344
Total,	31,667
Accurate,	7,518
Inaccurate,	772
Total,	8,290

¹ In addition to the inspections of commercial weighing and measuring devices, inspections of the standard weights, measures and balances furnished by the Commonwealth to the several cities and towns, and now in the custody of the city and town treasurers, were also made.

Reweighings.

ARTICLE.	Correct.	Under.	Over.
Packages,	4,928	1,127	578
Coal wagons (loads),	22	24	50
Coal in bags,	188	90	239
Ice,	1	7	1
Totals,	5,139	1,248	868

State Institutions.

ARTICLE.	Adjusted.	Sealed.	Condemned.
Scales,	25	620	80
Weights,	16	1,852	64
Measures,	—	10	1
Pumps,	—	3	2
Totals,	41	2,485	147

Miscellaneous.

Prosecutions,	48
Complaints investigated,	41
Leather measurers examined,	79
Leather remeasured (square feet),	4,350 $\frac{3}{4}$

OFFICE WORK.

Aside from the routine work incident to the proper handling of official records and correspondence, the activities of the office have been many and varied. Cash to the amount of more than \$60,000 was received in fees for various forms of licenses and for the survey of lumber; and cash to the amount of \$500, or a surety bond for a like amount, was deposited by each of 79 holders of itinerant venders' licenses, to be subject to legal proceedings in behalf of creditors whose claims arise in connection with the business done under these licenses. A complete statement of these financial transactions is included in this report.

In addition to the enforcement of the statutes relating to weights and measures, the following duties and responsibilities are expressly imposed by statute upon the Director of Stand-

ards, and, in consequence, interviews, conferences and hearings upon these subjects were of frequent occurrence:—

1. To authorize manufacturers of milk jars, graduated glass measures, ice-cream measures or clinical thermometers to seal the same as correct under certain conditions, and to revoke such authorization for cause.

2. To issue certificates of fitness to applicants for appointment as leather measurers, and to revoke such certificates for cause.

3. To make rules and regulations necessary to secure the greatest possible accuracy in the use of taximeters and leather-measuring devices.

4. To establish such reasonable variations, tolerances and exemptions as he may deem expedient in the administration of the statute requiring statement of quantity of contents on packages of food.

5. To prescribe rules and regulations necessary for the enforcement of the statute governing the weights of bread.

6. To give hearings to parties concerned before prosecution is begun for violation of the law relative to marking of food packages, or of the law or regulations relative to the marking of loaves of bread of other than standard weights.

7. To appoint employees of State institutions or departments as special deputies for the purpose of checking the receipt and disbursement of supplies.

8. To issue hawkers' and peddlers' and transient venders' licenses, and to revoke the same upon conviction of the licensee of any crime which in his judgment warrants such revocation.

9. To establish the shape and dimensions of paper or fiber containers used in the sale of ice cream.

10. To approve certain types of automatic vending devices.

11. To assist manufacturers in standardizing their products.

12. To determine the accuracy of any weights, measures or other instruments or mechanical devices used for determining wages or compensation for labor performed.

13. To establish and define, with the approval of the Commissioner of Labor and Industries, grades and kinds of lumber and fees for the survey and measurement thereof, and also in like manner to establish units of measurement to be observed in the sale of wooden shingles.

HAWKERS, PEDDLERS AND ITINERANT VENDERS.

The prevailing industrial depression and consequent increase in unemployment is reflected in the number of hawkers' and peddlers' licenses issued during the year, many of the applicants for these licenses having been heretofore engaged in productive industries. Cancellation of contracts for boots, shoes, clothing, etc., has forced some manufacturers to liquidate their stocks through temporary retail sales. These sales, together with the many transient sales of surplus army supplies, coming within the scope of the itinerant vendors' license law, caused a considerable increase in the number of these licenses issued.

During the year ending November 30, 1920, 1,986 licenses were issued to hawkers and peddlers, an increase of 342 over the preceding year. Of this number, 675 were for the State, 413 for counties, 227 for cities, and 408 for towns. In addition, 79 free licenses issued to disabled veterans of the late war are included in the total reported, and 164 licenses were transferred, no fees being chargeable for such transfers. One State license was revoked upon conviction of the licensee of defrauding purchasers by misrepresenting the quality of merchandise offered for sale.

The total number of itinerant vendors' licenses issued was 79, as against 31 issued during the preceding year.

FOOD IN PACKAGE FORM.

The regulation for marking food in package form originally adopted under authority of section 2, chapter 653, Acts of 1914, provided that packages containing 2 avoirdupois ounces or less, and those containing 1 fluid ounce or less, should be considered as "small" packages, and therefore exempted from marking of quantity of contents.

Some packers of spices and similar commodities took advantage of this exemption by reducing the quantity contained in their packages nearly one-half while using the same size containers, thus deceiving the purchasers. This abuse assumed such proportions that on April 26, 1919, the Federal regulation was amended so as to require the marking of quantity of contents on all packages containing more than one-half avoirdupois ounce of food.

Recent investigation by inspectors of this Division developed the fact that considerable quantities of flavoring extracts and similar commodities were being offered for sale in this Commonwealth in so-called "paneled" bottles containing only three-fourths liquid ounce, although the apparent size of the bottle would lead the purchaser to believe that he was receiving about 2 fluid ounces.

In order to protect the consumer against this form of fraud, amendments to the regulation have been adopted, and a certified copy having been filed with the Secretary of the Commonwealth, are now in full force and effect. The complete text of these amendments may be found on pages 267 and 268, Bulletin No. 17, published by this Division in November, 1920.

LOCAL SEALERS OF WEIGHTS AND MEASURES.

Sealers of weights and measures in the various cities and towns are required by statute to report annually to the Director of Standards. A summary of these reports is presented herewith.

A permanent organization of local sealers has been in existence for some years, and the Director has had several conferences with official representatives of the Sealers' Association, together with individual sealers, with a view to bringing about unity of action in eliminating from use weighing and measuring devices of faulty construction or of questionable accuracy. These conferences have engendered a splendid spirit of co-operation, without which efficient service could not be secured or expected in many towns where the compensation is small and the tenure of office uncertain.

Summary of Work performed by Local Sealers.

ARTICLE.	Adjusted.	Sealed.	Non-sealed.	Condemned.
<i>Scales.</i>				
Platform (5,000 pounds and over), . . .	497	3,112	77	224
Platform (100 to 5,000 pounds), . . .	6,038	26,904	1,120	1,287
Counter,	2,789	18,446	539	722
Beam,	195	2,387	93	138
Spring,	2,775	26,509	342	2,922

Summary of Work performed by Local Sealers — Concluded.

ARTICLE.	Adjusted.	Sealed.	Non-sealed.	Con-demned.
<i>Scales — Concluded.</i>				
Computing,	6,028	15,064	104	1,601
Slot-weighing,	49	2,097	21	156
Prescription,	104	1,574	39	130
Jewelers,	12	151	30	11
Miscellaneous,	1	64	1	—
Totals,	18,488	96,308	2,366	7,191
<i>Weights.</i>				
Avoirdupois,	8,165	185,944	990	1,448
Apothecary,	323	19,103	166	1,053
Metric,	207	10,789	265	221
Troy,	168	2,739	30	95
Totals,	8,863	218,575	1,451	2,817
<i>Measures.</i>				
Dry,	8	2,763	6	203
Liquid,	220	30,978	27	1,399
Linear,	113	7,124	5	454
Milk jars,	—	544	—	2
Glass graduates,	—	232	—	—
Automatic measuring devices,	1,580	10,144	528	723
Ice-cream cans,	486	38,060	25	675
Measuring machines (leather, etc.),	2	461	5	19
Taximeters,	2	755	—	33
Miscellaneous,	—	2,816	37	19
Total,	2,411	93,877	633	3,527
Grand total,	29,762	408,760	4,450	13,535

Reweighing.

COMMODITY.	Number reweighed.	Correct.	Over-weight.	Under-weight.
Coal (loads),	1,291	503	483	305
Miscellaneous,	101,985	73,264	15,876	12,845
Total,	103,276	73,767	16,359	13,150

<i>Prosecutions.</i>	
Total number prosecuted,	257
Convicted,	232
Discharged,	11
Continued,	12
Defaulted,	2
Appealed,	14

Fines aggregating \$3,333 and one sentence of thirty days in the house of correction were imposed. In addition to these penalties, restitution in the following amounts was required to be made in several cases: \$800, \$740, \$400, \$90 and \$60. In another case the defendant was required to give \$200 to charity, and in several cases involving short weight in sales of ice the defendants were required to furnish their victims with free ice for a considerable period.

The work, if any, performed in the following towns is not included in this compilation, as the local sealers have not filed their annual reports as required by law: Buckland, Canton, Dighton, Goshen, Heath, Holliston, Hopkinton, Mansfield, Millis, New Ashford, Norfolk, Otis, Peru, Rockland and Williamsburg. The reports from Hubbardston and Oak Bluffs were received too late to be included.

LUMBER SURVEY.

Under the provisions of chapter 350, General Acts of 1919, the office of Surveyor-General of Lumber was abolished and the duties of that office assigned to the Director of Standards. However, the latter office was not filled until January 29, and the necessary changes in the existing laws relative to such matters as grades and kinds of lumber, appointment of surveyors and fixing of fees were not enacted until May 27. In consequence of these conditions the duties of the Director in connection with the survey of lumber were not fully assumed by him until July 1, and the following synopsis of that work covers only the period commencing on that date and ending on November 30.

A study of the problems involved in the survey of lumber elicited the fact that Massachusetts is the only State providing for an official determination of grades and kinds of lumber

under governmental auspices; that there are a number of associations of lumber manufacturers and wholesalers in various sections of the country which have established grading rules for lumber manufactured in or shipped from their respective sections, and that some of these associations maintain a traveling force of inspectors to resurvey lumber in case of dispute as to grading; that with some kinds of lumber either one of two or more sets of these association grading rules may be applied in accordance with prevailing practice, thus causing a lack of uniformity in similar grades, with consequent confusion in figuring on building material; that much of the lumber coming from territory covered by the grading rules of the various associations is a virgin growth, while most of the pine, spruce and hemlock now obtainable in New England, eastern Canada and the Maritime Provinces is a second growth for grading which there appear to be no definite rules in existence.

In spite of these conditions some progress has been made in systematizing the methods pursued by surveyors of this Division, and rules are now being formulated for the grading of eastern pine, spruce and hemlock mentioned above. While it is planned to make the work of lumber surveying self-supporting, the expenditures for the five months covered by this report exceeded the receipts by \$456.80. This may easily be remedied in the coming year by a revision of the fees now charged for surveying, which are much lower than those charged by the lumber associations for similar service.

NEW UNITS OF MEASUREMENT FOR SHINGLES.

On April 1, 1920, the manufacturers of red cedar shingles adopted a new system of packing their product according to the "square" unit, instead of the so-called "thousand" unit which formerly prevailed, and it is stated that at least 85 per cent of these shingles are now packed according to the new unit.

The principal reason for the change was the fact that all other forms of roofing material, with the possible exception of slate, are sold by the "square," and the average person would naturally compare the price of the "square" of other roofing with the price per "thousand" of the wooden shingle, thus

subjecting the latter to an unjust and erroneous price comparison.

Unless the sale of shingles by the square unit were legalized the greater part of the western red cedar shingles would be kept out of the Massachusetts market at a time when sound public policy requires the fullest and freest possible competition in the sale of building materials.

Fortunately, the Legislature of 1920 anticipated this condition, and inserted a provision in chapter 551 (relative to the survey of lumber) which requires the Director of Standards, with the approval of the Commissioner of Labor and Industries, to establish from time to time units of measurement to be observed in the sale of wooden shingles in this Commonwealth. Acting under this authority units of measurement have been established and published in Bulletin No. 17, issued by this Division in November, 1920.

Lumber Surveyed and Measured from July 1 to November 30, 1920.

[Unless otherwise specified, figures indicate number of feet, board measure.]

Hardwood,	2,928,800
Hard pine,	4,087,990
White pine,	270,838
Pine boards,	1,789,244
Spruce,	3,395,995
Cypress,	1,212,388
Flooring,	334,139
Fir,	188,278
Cedar,	22,869
Tupelo,	21,738
White wood,	129,217
North Carolina pine,	977,934
Idaho pine,	17,808
Hemlock,	321,757
Sugar pine,	10,477
Yellow pine,	874,383
Spruce sheathing,	20,474
Red wood,	25,603
Total amount surveyed and measured,	16,629,932

In addition to the above, 1,541 $\frac{3}{8}$ cubic tons (61,654 cubic feet) of mahogany logs and 340 hackmatack ship knees were surveyed during the period covered by this report.

FINANCIAL STATEMENT.

Receipts from License Fees.

State (hawkers' and peddlers'),	\$33,750 00
City (hawkers' and peddlers'),	5,886 00
Town (hawkers' and peddlers'),	4,899 00
County (hawkers' and peddlers'),	1,902 00
Itinerant venders',	1,975 00
Interest on deposits,	124 40
Total,	<hr/> \$48,536 40

Payments to State Treasurer.

State license fees,	\$33,750 00
City license fees,	227 00
Town license fees,	408 00
County license fees,	413 00
Itinerant venders',	1,975 00
Interest,	124 40
Total income to Commonwealth from licenses, etc.,	<hr/> \$36,897 40

Payments to City, Town and County Treasurers on Account of Hawkers' and Peddlers' Licenses.

Cities,	\$5,659 00
Towns,	4,491 00
Counties,	1,489 00
Total,	<hr/> \$11,639 00

Annual Appropriation (exclusive of Lumber Survey).

For salaries,	\$19,600 00
For general expenses,	15,025 00
Total,	<hr/> \$34,625 00

Expenditures.

For salaries,	\$17,963 43
For general expenses,	13,389 92 ¹
Total,	<hr/> \$31,353 35

¹ This includes the sum of \$985.84 expended in payment of bills for apparatus and printing contracted during the previous fiscal year.

Recapitulation.

Total appropriation,	\$34,625 00
Expended,	31,353 35
Unexpended balance,	<u>\$3,271 65</u>
Total income from licenses, etc.,	\$36,897 40 ¹
Total expenditures, exclusive of lumber survey,	<u>31,353 35</u>
Excess of income over expenditures,	\$5,544 05

Account of Lumber Survey.

Received for fees and expenses for lumber surveys,	\$10,429 57
Received for interest on deposits,	8 62
Paid over to State Treasurer,	<u>\$10,438 19</u>
Bills receivable on November 30,	1,141 60 ²
Total income from lumber surveys,	<u>\$11,579 79</u>
Total expenditures for lumber surveys,	\$12,083 59
Total income for lumber surveys,	<u>11,579 79</u>
Excess of expenditures over income,	\$458 80
Appropriation for salaries,	\$20,000 00
Appropriation for general expenses,	<u>2,000 00</u>
Total appropriation,	\$22,000 00
Expended for salaries,	\$10,366 26
General expenses,	<u>1,672 33</u>
Total expenditures,	<u>12,038 59</u>
Unexpended balance,	\$9,961 41

Respectfully,

FRANCIS MEREDITH,

Director of Standards.

¹ This does not include the sum of \$11,639 received as fees for hawkers' and peddlers' licenses and paid over to treasurers of counties, cities and towns for which these licenses were issued.

² At time of filing this report, \$877.93 of this amount had been collected.

REPORT
OF THE
DIRECTOR OF STATISTICS

REPORT OF THE DIRECTOR OF STATISTICS.

To the Commissioner of Labor and Industries.

A report of the work of the Division of Statistics during the fiscal year ending November 30, 1920, is respectfully submitted herewith.

ORGANIZATION AND FUNCTIONS.

Certain of the functions of the former Bureau of Statistics were transferred on December 1, 1919, to the new Department of Labor and Industries in accordance with the provisions of the General Acts of 1919, chapter 350, section 69. These functions are as follows: —

1. Collecting, arranging and publishing statistical information relative to the commercial and industrial condition of the people, and the productive industries of the Commonwealth, usually designated as the statistics of labor and manufactures.

2. Establishment and maintenance of public employment offices.

3. All other duties of the former Bureau of Statistics not otherwise provided for by the act.

The act authorized the Commissioner of Labor and Industries, the administrative head of the Department, to organize the work of the Department into divisions. Accordingly, in January, 1920, he established the Division of Statistics and assigned to it the functions which had been transferred from the Bureau of Statistics. The undersigned was appointed director of the Division.

Certain other functions, in addition to those described above, have been added to the work of the Division, among which are the compilation of data relative to exports of manufactured products, and co-operation with the United States Employment Service.

The Division, as now organized, comprises four branches of work, as outlined below: —

Statistics of Labor. — For the collection and tabulation of statistical information relating to matters affecting labor and the condition of the working people, as well as questions of general economic and social interest.

Statistics of Manufactures. — For the collection and tabulation of statistics of manufactures and the preparation of an industrial directory.

Library. — For the answering of inquiries by members of the Department and the public relative to industrial conditions in the Commonwealth.

Public Employment Offices. — For the purpose of assisting employers to secure help and employees to secure positions. There are three placement offices, located, respectively, at Boston, Springfield and Worcester.

PUBLICATIONS.

The information collected by the Division is obtained primarily for publication in the annual and quarterly reports described below, but a considerable part of the work of the Division consists in answering inquiries relative to industrial conditions in Massachusetts. In some instances the purpose for which the information was desired has justified making special investigations or tabulations from data on file, the results of which do not appear in the printed reports.

Annual Report on the Statistics of Labor (Public Document No. 15).

This report for the year 1920 consists of three parts, each of which has been issued separately as a labor bulletin. Fifteen hundred copies of each part have been set aside for binding and publication at the close of the year (together with introductory text) as the "Fifty-third Annual Report on the Statistics of Labor." These parts or bulletins are here briefly described.

Part I. Nineteenth Annual Directory of Labor Organizations in Massachusetts, 1920 (Labor Bulletin No. 130). — This directory contains the name, location, place of meeting, and the name and address of the secretary and of the business agent of each labor organization having its headquarters in Massachusetts, together with a list of all of the national and international organizations having one or more affiliated local unions in the United States, and the names and addresses of their

respective secretaries, in so far as these data could be ascertained.

Part II. Tenth Annual Report on Union Scale of Wages and Hours of Labor in Massachusetts, 1919 (Labor Bulletin No. 131). — The information presented in this report was obtained principally from officials of local trade unions in Massachusetts, whose members were known to be working under a time-rate system of wage payment. In the case of employees in the steam and electric railway service, and in telephone, telegraph and Federal service the necessary information was obtained from wage scales furnished for the most part by the employers. To some extent, information was also obtained from employers in order to supplement or confirm the data obtained from trade union officials. Wherever the terms of employment were definitely expressed in joint agreements between employers and employees, efforts were made to obtain copies of the agreements, a large number of which have been placed on file in the Division for purposes of reference.

Part III. Wages and Hours of Labor in the Metal Trades in Massachusetts, 1914-19 (Labor Bulletin No. 132). — Because of the unusual importance of the metal trades during the war period this industry was selected in 1915 as the field for a special inquiry. It was at first intended to obtain pay-roll data for a representative week in 1915, only, for comparison with similar data for a corresponding week in 1914, but as the war continued, information was obtained from year to year for a number of identical establishments, and finally it was deemed advisable to secure further information for the year following the close of the war, in order to have a continuous series of records for the entire war period, and one year of reconstruction, thereby registering the enormous expansion of the industry in this State since 1914. The field work of this investigation was completed by the Massachusetts Bureau of Statistics, and a considerable part of the tabulation of the results was made by that Bureau; the final tabulations, however, were completed by the Division of Statistics, by which this report was published.

Annual Report on the Statistics of Manufactures (Public Document No. 36).

The Department of Labor and Industries is directed by law to collect and publish annually statistics of manufactures in the Commonwealth. The report for the year 1918 was ready for the printer in October, 1919. Owing to unavoidable delay, the report did not appear in print until January, 1920, but the results of the census had been made public in press notices several months earlier. The report covered returns received from 9,865 manufacturing establishments in the State, and included data relative to capital invested, stock and materials used, value of products, number of persons employed, time in operation and shipments abroad of manufactured products.

The census of manufactures for the year 1919 was undertaken in co-operation with the Federal Bureau of the Census. As the inquiries in the Federal and the State questionnaires were practically identical, one schedule was made to serve the purposes of both offices, thereby avoiding needless duplication of work and the making of two separate returns by manufacturers. Inquiries relative to exports of manufactured products and classified rates of wages, however, were not included in the Federal questionnaire, and this information has, therefore, been obtained separately for the use of this Division. The tabulation of the returns obtained in co-operation with the Federal Census Bureau is being made at Washington. This Division is now engaged in tabulating the additional returns relative to exports of manufactured goods and classified rates of wages.

Massachusetts Industrial Review.

This quarterly publication, of which three numbers have been issued during the year, supersedes the "Quarterly Report on Employment," formerly issued by the Massachusetts Bureau of Statistics. Originally, the quarterly report included statistical information having reference only to the unemployment of trade unionists. From time to time other features were added, such as quarterly statistics covering the operations of the Massachusetts Public Employment Offices, trade reports obtained from persons conversant with employment conditions

in this State; statistics of building operations in Massachusetts cities; and, more recently, information in some detail with reference to labor disputes occurring in this State. In addition to the usual articles on the subjects just enumerated, the following special articles have been published in the numbers of the Review issued during the year: —

No. 1 (March, 1920): —

Cost of Strikes in Massachusetts, 1919.

War-time Earnings in the Metal Trades Industry.

Productivity of Labor in Massachusetts, 1914, 1918 and 1919.

No. 2 (July, 1920): —

Changes in Union Rates of Wages and Hours of Labor in Boston during the Period 1914 to 1920.

No. 3 (October, 1920): —

Union Rates of Wages and Hours of Labor in the Building Trades in Massachusetts, 1914 to 1920.

Labor Injunction, *Plant v. Gould*.

Census of Manufactures, 1919.

Eighth Annual Convention, American Association of Public Employment Offices.

The fourth number of the Review, dated March, 1921, is now being prepared, and will contain information relative to employment conditions during the fourth quarter of the year, and special articles of current interest.

Report on the Public Employment Offices (Public Document No. 80).

During the year the "Thirteenth Annual Report on the Public Employment Offices for the Year 1919" was issued. In this report the following subjects were covered in the introductory text: —

1. The Labor Market in 1919.
2. Business Activity at the State Offices.
3. Placement of Soldiers, Sailors and Marines.
4. Co-operation with the United States Employment Service.
5. Organization and Personnel.

Reports by superintendents of the three offices, located, respectively, in Boston, Springfield and Worcester, together with statistical tables covering the activities of the offices, were

also included in the report. Briefly summarized, the report shows that the total number of persons applied for by employers during the year 1919 was 58,255, and the total number of placements made was 37,615. It therefore appears that 64.6 per cent of the employers' requisitions during the year were filled. The total number of *individual* employers served by the offices was 11,457, while the total number of *individuals* for whom positions were found was 18,095, for 12,042 of whom *one position only* was secured, and for 6,053 *more than one* position was secured. Based on the total expenditures of \$43,735.05 on account of these offices during the *fiscal* year ending November 30, 1919, the per capita cost of placement (including rentals, the cost of telephone service, and certain other contingent expenses not ordinarily considered in computing the per capita cost of placement by public offices) was \$1.15 for the three offices considered as a group.

The "Fourteenth Annual Report" for the year 1920 is now being prepared. During the year ending November 30, 1920, the total number of placements made was 38,919, at a cost of \$52,558.11, or \$1.35 per placement. The increase in the cost per placement over the cost (\$1.15) for the preceding year is due almost wholly to necessary increases in salaries, rentals and cost of telephone service.

THE DEPARTMENT LIBRARY.

The large collection of publications which, since 1869, had been accumulated by the former Bureau of Statistics was transferred to the Department of Labor and Industries, and to this collection have been added the special libraries of the Board of Labor and Industries, the Board of Conciliation and Arbitration, and the Minimum Wage Commission, now consolidated in the new Department. For administrative purposes the library, as thus constituted, is attached to the Division, but it is intended that it shall serve the entire Department, and that it shall also be used for reference purposes by the general public.

The library now comprises about 3,000 bound volumes, and includes a substantially complete file of the official labor reports issued by the United States Bureau of Labor, and by

other labor bureaus or departments in the United States and in foreign countries. There are also on file a large number of reports issued by unofficial investigating agencies.

There are received, currently, 15 daily newspapers, 43 weeklies, 104 monthlies, and 24 other periodicals, making a total of 186 publications of this character, a large number of which are exchanges. These newspapers and periodicals are read, and the important items are clipped and classified, thus affording for reference purposes a very useful collection of press notices relative to industrial topics.

CO-OPERATION WITH THE UNITED STATES EMPLOYMENT SERVICE.

In January, 1920, arrangements were made for co-operation between the United States Employment Service and the Massachusetts Public Employment Offices in the establishment of a clearance system throughout the country for the purpose of distributing surplus labor in one State to other States in which there might be a shortage. Provision was made, also, for the collecting and disseminating of information as to general employment conditions throughout the United States.

The agreement between the Director-General of the United States Employment Service and the Commissioner of Labor of the Massachusetts Department of Labor and Industries, who administers the public employment offices in this State, provides for the payment of salaries of two Federal employees attached to the United States Employment Service staff who have been assigned to Massachusetts and who are working under the direction of the Commissioner of Labor in Massachusetts. One of these Federal employees is now stationed in Boston, and has charge of the preparation of the clearance reports which are sent to Washington. The other is stationed at the Springfield public employment office, and is engaged in field work, consisting largely of visiting establishments for the purpose of acquainting employers in the western part of the State with the work of the employment service. This plan of co-operation is proving very satisfactory.

SPECIAL INQUIRIES.

Numerous requests for information relative to industrial conditions in Massachusetts and in other States and foreign countries are received by mail, telephone or in person at this office; and many of these are answered by reference to original records on file in the Division, or to publications in the library of the Department. For the most part, these inquiries have reference to the relative increases in wages and cost of living since the outbreak of the war in 1914. Much of the information furnished is used in the adjustment of wage disputes, and for this reason the answering of inquiries is considered a very important branch of the work of the Division. Opportunity is also afforded those who make inquiry in person to consult the current publications on industrial subjects, many of which have been secured by purchase or exchange, and have been catalogued and placed on the shelves of the library.

In some instances the important use to be made of information requested has justified the making of special tabulations or surveys not forming a part of the routine work of the Division. As illustrative of such inquiries may be mentioned calls for information by business organizations, such as the Boston Chamber of Commerce, Boston Elevated Railroad and the New England Telephone Company; by organizations of employers, such as the National Industrial Conference Board and the Associated Industries; by labor organizations, through their representatives or labor adjustment boards; by civic organizations; by State and Federal departments; and by economists and other individuals who may be engaged in important research work.

Partly in order to record the services rendered to inquirers, but primarily for the purpose of ascertaining the character of the information most frequently called for in order that the investigations undertaken by the Division may be directed to those topics which may be of current and commanding interest, those in charge of the several branches of the work of the Division have been instructed to record, on memoranda slips prepared for the purpose, the name of inquirers for information,

stating the organizations represented (if any), the nature of the information desired, and the length of time required in compiling such information. This plan has not been in operation for a sufficient length of time to justify the preparation of a statistical report as to the actual time expended on work of this character, but it may be said that nearly the entire time of the librarian and two assistants is thus employed, and at least an hour each day is expended on this work by the director and by each of the two statisticians having charge, respectively, of the statistics of labor and of manufactures; and furthermore, certain of the regular field agents and tabulating clerks are assigned to this work whenever a special investigation is undertaken. Among the special investigations and surveys of this character are the following:—

A rather exhaustive review of the strikes which occurred during the year 1919, and the cost of such strikes as represented by loss of earnings and production; a study relative to productivity of labor during the years 1914, 1918 and 1919 for the purpose of determining whether or not there was a decrease of efficiency of labor during the war period; two special tabulations of data showing changes in union rates of wages and hours of labor in Massachusetts since 1914; several preliminary tabulations of the statistics of manufactures for 1919 for the purpose of making available, in advance of the issue of the annual report, certain classes of information, the early publication of which was particularly desirable; an inquiry into the administration, by municipal authorities, of the law relative to the licensing of private employment agencies; and very recently, a special survey of unemployment in order to ascertain the extent to which industrial depression prevailed in the important industries and industrial centers of the Commonwealth. The results of the more important of these special inquiries have been published as articles in one of the publications of the Division, or are to be so published, and in several instances news letters have been released to the press in order to make public the facts at as early a date as possible.

RECORDS OF INDUSTRIAL DISPUTES.

Primarily for the use of the Board of Conciliation and Arbitration the Division maintains a daily record of industrial disputes which occur in Massachusetts. The Board is advised each day of any labor controversy which indicates that a strike is imminent; of the actual occurrence of a strike or lockout; of any changes in the status of any disputes which may have already been recorded; and of the termination of any such dispute. The records are obtained from a variety of sources, the principal being:—

(a) Reports made directly to the Board by municipal authorities, as provided by law.

(b) Press clippings taken from the leading daily papers which are read by the library assistants, supplemented by clippings received from two press clipping bureaus to whose service the Department subscribes.

(c) Reports received from field agents and industrial inspectors employed by the Department.

(d) Reports from officials of labor organizations to whom are sent, at the close of each quarter, questionnaires relative to controversies in which members of their respective organizations may have been engaged during the quarter.

With reference to the press notices referred to above, it should be stated that such notices serve merely as an *initial* source of information, and the particulars thus obtained are carefully verified and supplemented by communicating directly with the parties to the respective controversies, except in the case of the relatively unimportant disputes. In view of the number of sources from which the information is obtained, it is believed that all labor disputes of any consequence that occur in Massachusetts are recorded, and that the records are, for all practical purposes, substantially correct. In addition to the use made of the records by the Board of Conciliation and Arbitration, they are used in the compilation of quarterly and annual reports relative to labor disputes in the Commonwealth, published as articles in the Massachusetts Industrial Review, which articles include narrative accounts of the more important disputes which have occurred, together with sta-

tistical data. The importance of this field of investigation is indicated by these facts: that during the year 1919 the number of strikes and lockouts which occurred in Massachusetts was 492; that 194,833 employees were thrown out of work as a result of these disputes; and that their approximate loss in wages amounted to over \$8,660,000. The report for the year 1920 has not yet been compiled, but preliminary tabulations show that, as indicated by the records of industrial disputes during the year, industrial unrest was much less prevalent throughout the State in 1920 than in 1919.

RECOMMENDATIONS.

The statutes governing the work of the Division are sufficiently broad in scope to permit of the carrying out of the recommendations herein made without the necessity of further legislation, and with only small increases in appropriation.

Monthly Labor Market Survey.

For some months efforts have been made by the Commissioner of Labor Statistics at Washington to induce this Division to undertake the collection and publication, monthly, of information relative to the number of persons employed in industrial establishments, and the amount paid in wages as indicated by the pay rolls of such establishments. This matter has been discussed with the officials at the Department of Labor at Washington, and tentative arrangements have been made for undertaking this work. The director of the Division has also made a study of the methods employed in the collection and publication of such material by the New York Industrial Commission. No large additional cost will be entailed because this will be substituted for certain other lines of work of somewhat similar nature which will be discontinued. During the present period of industrial readjustment it is quite essential that current data of this character be available, and it is further recommended that in this connection there be collected, monthly, information with reference to the cost of living should this work be discontinued by the Special Commission on the Necessaries of Life.

The method employed in collecting this kind of information by the Bureau of Labor Statistics at Washington has been very carefully studied by the director of the Division, and on inquiry it was found that the cost of doing this work would be by no means prohibitive. It would necessitate the employment of one special statistician at a salary not exceeding \$1,800 per annum, and the assignment to this work of one or two statistical clerks for a portion of each month. In the settlement of industrial controversies reference is being made more and more to the relation between the trend of prices and the trend of wages, and it is particularly desirable that there be available official information which can be used in formulating the terms of agreements between employers and employees. In order that the information obtained may be made readily available to the public, it is urged that the Department issue, monthly, a publication in which such information could be presented, and it is believed that by the expansion of the Industrial Review, and its more frequent publication, this object could be accomplished.

Establishment of a Mercantile Employment Office in Boston.

The employment office now located at 8 Kneeland Street, Boston, is not sufficiently central to serve efficiently as an employment agency for the mercantile interests, and it is therefore recommended that a mercantile office be established in a central location in the city.

The cost of operating this office is estimated at \$3,000 per annum, of which amount about \$2,000 would be required for rental. No clerks, in addition to those already employed at the Boston office, would be required, for the reason that the registrar of employment assigned by the United States Employment Service to Boston, whose salary is paid from Federal funds, could be assigned to take charge of the new office, and one or two clerks now employed at the Kneeland Street office in Boston could be transferred to the new office, continuing in some measure the work on which they are now engaged.

Co-operation with Other Statistical Organizations.

One of the valid criticisms of the work of statistical agencies is that investigations by one agency are frequently duplicated by those of another. In order to avoid such duplication, arrangements have already been made with the United States Bureau of Labor Statistics and the United States Employment Service for co-operation in certain lines of work. It has also been possible to avoid duplication of similar work undertaken by business and civic organizations by co-operating with these organizations in such manner as to secure uniformity in questionnaires so that information obtained by one agency may be used by another without the necessity of undertaking a separate canvass.

Earlier in this report attention has been called to the arrangement made with the United States Bureau of the Census for the joint collection of annual statistics of manufactures. Similar arrangements are now being made for the collection by this office of information desired by the United States Bureau of Labor Statistics, the canvass to be jointly conducted on a single questionnaire, and in such manner as to fulfill the requirements of both offices without the necessity of subjecting the employer to the inconvenience of filling out two questionnaires. The director has also arranged for supplying the International Labour Office, representing the League of Nations, with current information relative to industrial conditions in Massachusetts.

During recent years there has been a remarkable development in the field of business statistics, and many of the large corporations have appointed statisticians who are engaged in research work, primarily for the benefit of the corporations by which they are employed. It is unfortunately true that government departments have not, in many instances, been able to supply statistical data requested by large business enterprises. With a desire to serve more adequately the interests of business concerns through the timely presentation of statistical information called for, the director is endeavoring to expand the work of the Division so as to correlate more

closely its work with that of other official and unofficial statistical organizations, in order that it may fulfill the purposes for which it has been established.

FINANCIAL STATEMENT.

There is presented below a statement showing the amounts appropriated for the statistical work of the Division and the public employment offices during the fiscal year ending November 30, 1920, the amounts expended thereof, and the balances unexpended; also the estimated expenditures during the fiscal year ending November 30, 1921, showing the amounts of increases in the several appropriations requested over the amounts appropriated during the preceding fiscal year.

Actual Expenditure for the Fiscal Year ending November 30, 1920.

ITEMS.	Appropriation.	Expenditures.	Balance.
Division of Statistics: —			
Salaries,	\$36,900	\$34,815 40	\$2,084 60
Contingent expenses,	12,900	11,776 02 ¹	1,123 98
Totals,	\$49,800	\$46,591 42 ¹	\$3,208 58
Public Employment Offices: —			
Salaries,	\$42,300	\$41,362 72	\$937 28
Contingent expenses,	12,300	11,195 39	1,104 61
Totals,	\$54,600	\$52,558 11	\$2,041 89

¹ Includes outstanding printing bills estimated at \$4,250.

Estimated Expenditures for the Fiscal Year ending November 30, 1921.

ITEMS.	Estimated Expenditures.	Increase over 1920.
Division of Statistics: —		
Salaries,	\$41,200	\$4,300
Contingent expenses,	15,945	3,045
Totals,	\$57,145	\$7,345
Public Employment Offices: —		
Salaries,	\$46,055	\$3,755
Contingent expenses,	15,470	3,170
Totals,	\$61,525	\$6,925

The increases in the estimated appropriations for the fiscal year ending November 30, 1921, over those for the preceding fiscal year are necessary to provide for proposed increases in salaries, for the payment of salaries of several additional clerks in the statistical service, and for increases in contingent expenses. The principal increases in contingent expenses are for traveling expenses of field agents engaged in the collection of statistics of manufactures. A considerable portion of the field work in 1919 was paid for by the Federal Bureau of the Census, which Bureau will not co-operate in this work in 1921. Approximately \$1,500 is estimated for a Directory of Manufactures, for which there is a large and insistent demand. The last edition of such directory, issued in 1913, is out of date and has long since become exhausted. The principal increases on account of the public employment offices are for rentals and for the opening of a mercantile office in Boston.

Respectfully submitted,

ROSWELL F. PHELPS,

Director, Division of Statistics.

APPENDIX

APPENDIX.

LIST OF PUBLICATIONS OF DEPARTMENT AND DIVISIONS.

DEPARTMENT OF LABOR AND INDUSTRIES.

General.

Labor and Industries, Bulletin of Current Activities. Quarterly. Vol. 1, No. 1, June, 1920. Notes on the work in progress in the Department and divisions. Opinions of the Attorney-General. Decisions of the Counsel regarding the labor laws.

Health Certificates for Working Children, June, 1920. Recommendations regarding the issuing of health certificates to children entering industry.

Legislation enacted in 1919 affecting the Issue of Employment Certificates, together with a description of the revised forms, June, 1920. Handbook of the Labor Laws enforced by the Department of Labor and Industries. Revised edition of the Manual of Labor Laws (in preparation).

Labor Law Leaflets: —

No. 1. Establishment of Minimum Wages for Women and Minors.

No. 2. Employment of Women and Children.¹

No. 3. Certification of Working Children. (Laws relating to the School Attendance and Physical Examination of Minors, and to the Issue of Employment and Educational Certificates.)¹

No. 4. Health and Safety of Employees.¹

No. 5. Weekly Payment of Wages.¹

No. 6. Employment. (Laws regarding Public Employment, Private Employment, Free Employment Offices and General Provision regarding Employment.)¹

No. 7. Conciliation and Arbitration of Industrial Questions.¹

No. 8. Powers and Duties of Inspectors.¹

No. 9. Definition of Terms used in the Labor Laws.¹

No. 10. Rules and Regulations enforced by the Department of Labor and Industries.¹

No. 11. Opinions of the Attorney-General with Respect to the Labor Laws enforced by the Department of Labor and Industries, together with Decisions of the Department and Counsel.¹

¹ In preparation.

BOARD OF CONCILIATION AND ARBITRATION.

Annual Reports.

First to thirty-fifth, 1886-1920.

Decisions, 1886-1920.

The decisions are printed separately and later published in the annual report for the year, which contains an index of the decisions for that year.

DIVISION OF MINIMUM WAGE.

Annual Reports.

First to seventh, 1913-19.

Bulletins.

- No. 1. Wages of Women in the Brush Factories in Massachusetts, January, 1914.¹
- No. 2. Wages of Women in the Corset Factories in Massachusetts, January, 1914.¹
- No. 3. Statement and Decree concerning the Wages of Women in the Brush Industry in Massachusetts, Aug. 15, 1914.
- No. 4. Wages of Women in the Candy Factories in Massachusetts, October, 1914.¹
- No. 5. Wages of Women in the Laundries in Massachusetts, October, 1914.
- No. 6. Wages of Women in Retail Stores in Massachusetts, March, 1915.¹
- No. 7. The Effect of the Minimum Wage Decree on the Brush Industry in Massachusetts, Sept. 16, 1915.
- No. 8. Wages of Women in the Paper Box Factories in Massachusetts, September, 1915.¹
- No. 9. Wages of Women in Women's Clothing Factories in Massachusetts, September, 1915.
- No. 10. Wages of Women in Hosiery and Knit Goods Factories in Massachusetts, January, 1916.
- No. 11. Report of the Minimum Wage Commission, 1915 (Commissioners' report and appendices of the Third Annual Report), January, 1916.¹
- No. 12. Preliminary Report on the Effect of the Minimum Wage in Massachusetts Retail Stores, November, 1916.
- No. 13. Wages of Women in Men's Clothing and Raincoat Factories in Massachusetts, December, 1916.
- No. 14. Wages of Women in Muslin Underwear, Petticoat, Apron, Kimono, Women's Neckwear and Children's Clothing Factories in Massachusetts, May, 1917.

¹ Publications out of print.

- No. 15. Wages of Women in Shirt, Workingmen's Garment and Furnishing Goods Factories in Massachusetts, December, 1917.¹
- No. 16. Wages of Women employed as Office and Other Building Cleaners in Massachusetts, May, 1918.¹
- No. 17. Wages of Women in Hotels and Restaurants in Massachusetts, September, 1918.
- No. 18. Supplementary Report on the Wages of Women in Candy Factories in Massachusetts, January, 1919.
- No. 19. Wages of Women employed in Canning and Preserving Establishments in Massachusetts, March, 1919.
- No. 20. Report on the Wages of Women in the Millinery Industry in Massachusetts, May, 1919.
- No. 21. Second Report on the Wages of Women in Corset Factories in Massachusetts, November, 1919.
- No. 22. Second Report on the Wages of Women employed in Paper Box Factories in Massachusetts, September, 1920.
- No. 23. Report on the Wages of Women employed in the Manufacture of Food Preparations and Minor Lines of Confectionery in Massachusetts, November, 1920.

Decrees.

- Statement and Decree concerning the Wages of Women in the Brush Industry in Massachusetts, Aug. 15, 1914. (Bulletin No. 3.)
- Statement and Decree concerning the Wages of Women in Laundries in Massachusetts, July 1, 1915.
- Statement and Decree concerning the Wages of Women in Retail Stores in Massachusetts, Sept. 15, 1915.
- Statement and Decree² concerning the Wages of Women in Women's Clothing Factories in Massachusetts, Sept. 28, 1916.
- Statement and Decree³ concerning the Wages of Women in Men's Clothing and Raincoat Factories in Massachusetts, Aug. 31, 1917.¹
- Statement and Decree concerning the Wages of Women employed in the Manufacture of Men's and Boys' Shirts, Overalls and other Workingmen's Garments, Men's Neckwear and other Furnishings, and Men's, Women's and Children's Garters and Suspenders in Massachusetts, Oct. 26, 1917.
- Statement and Decree concerning the Wages of Women in Muslin Underwear, Petticoat, Apron, Kimono, Women's Neckwear and Children's Clothing Factories in Massachusetts, July 1, 1918.
- Statement and Decree concerning the Wages of Women in Retail Millinery Workrooms in Massachusetts, July 1, 1918.
- Statement and Decree concerning the Wages of Women in the Wholesale Millinery Occupation in Massachusetts, Nov. 30, 1918.

¹ Publications out of print.

² Superseded by new decree entered on May 6, 1920. See below.

³ Superseded by new decree entered on Dec. 27, 1919. See below.

Statement and Decree¹ concerning the Wages of Women employed as Office and Other Building Cleaners in Massachusetts, Jan. 27, 1919.

Statement and Decree concerning the Wages of Women in the Candy Making Occupation in Massachusetts, July 19, 1919.

Statement and Decree concerning the Wages of Women employed in the Canning and Preserving Occupation in Massachusetts, July 21, 1919.

Statement and Decree concerning the Wages of Women employed in the Corset Occupation in Massachusetts, Dec. 27, 1919.²

Statement and Decree concerning the Wages of Women employed in the Men's Clothing and Raincoat Occupation in Massachusetts, Dec. 27, 1919.²

Statement and Decree concerning the Wages of Women employed in the Knit Goods Occupation in Massachusetts, March 13, 1920.²

Statement and Decree concerning the Wages of Women in the Women's Clothing Occupation in Massachusetts, May 6, 1920.²

Statement and Decree concerning the Wages of Women in the Paper Box Occupation in Massachusetts, May 26, 1920.²

Statement and Decree concerning the Wages of Women in the Office and Other Building Cleaners Occupation in Massachusetts, December 30, 1920.²

Miscellaneous.

Wage Boards and Their Work (A Handbook of Information for Wage Board Members), 1920. (New and revised edition.)

DIVISION OF INDUSTRIAL SAFETY.

Annual Reports.

First to seventh, 1914-19.

Industrial Bulletins.

No. 1. Laws relating to the Employment of Women and Children.³

No. 2. Laws relating to School Attendance and the Employment of Minors.³

No. 3. Laws relating to Labor.³

No. 4. Licensed Workers in Industrial Home Work in Massachusetts.

No. 5. Suggestions to Employers and Employees for the Protection of Eyes and the Prevention of Accidents.

No. 6. Rules and Regulations suggested for the Prevention of Anthrax.

No. 7. Rules and Regulations governing Compressed Air Work.

No. 8. Rule regarding Use of Salamanders.⁴

No. 9. Safety Rules and Regulations and Machinery Standards.

No. 10. Rules and Regulations relating to Safe and Sanitary Working Conditions in Foundries and the Employment of Women in Core Rooms.

¹ Superseded by new decree entered on December 30, 1920. See below.

² Entered by the Associate Commissioners of the Department of Labor and Industries.

³ Publications out of print.

⁴ Out of print. Included in Industrial Bulletin. No. 12.

- No. 11. Rules and Regulations suggested for Safety in the Manufacture of Benzene Derivatives and Explosives.
- No. 12. Rules and Regulations for the Prevention of Accidents in Building Operations.
- No. 13. Rules and Regulations pertaining to the Painting Business.
- No. 14. Requirements for the Care of Employees injured or taken ill in Industrial Establishments.
- No. 15. Conserving Children in the Industries of Massachusetts.
- No. 16. Rules and Regulations for Safeguarding Woodworking Machinery.

Miscellaneous.

- Rules and Regulations for Toilets in Industrial Establishments.
- List of Articles for Medical and Surgical Chest.
- Posters for Wash and Toilet Rooms.
- Poster for Prevention of Lead Poisoning.
- Poster for Prevention of Anthrax.
- Poster on Hours for Certain Public Employees.
- Poster on How to Avoid Blood Poisoning.

DIVISION OF STANDARDS.

Annual Reports.

First to thirteenth, 1907-19.

Bulletins.

[Containing information of particular interest to sealer of weights and measures.]

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| No. 1. July, 1914. ¹ | No. 10. September, 1917. |
| No. 2. September, 1914. ¹ | No. 11. January, 1918. |
| No. 3. December, 1914. ¹ | Bulletin Supplement, May, 1918. |
| No. 4. March, 1915. | No. 12. June, 1918. ¹ |
| No. 5. June, 1915. ¹ | No. 13. September, 1918. |
| No. 6. October, 1915. ¹ | No. 14. April, 1919. |
| No. 7. February, 1916. | No. 15. May, 1919. |
| No. 8. July, 1916. | No. 16. October, 1919. |
| No. 9. December, 1916. | No. 17. November, 1920. |

Thrift Series.

- No. 1. How Peggy learned Weights and Measures.
- No. 2. Refrigeration.
- No. 3. Household Economics.

Miscellaneous.

- Measurements for the Household, July, 1916. Second edition, January, 1917.
- Weights of Bread. November, 1920.
- Clinical Thermometers. May, 1919.

¹ Publications out of print.

DIVISION OF STATISTICS.

Annual Reports.

Statistics of Labor, first to fifteenth, 1870-1919.

Statistics of Manufactures, first to thirty-third, 1886-1918.

Free Employment Offices, first to thirteenth, 1907-19.

*Labor Bulletins, 1897-1919, Nos. 1-129.*¹

Employment and Earnings in Massachusetts. Quarterly. January, 1898-1904.

Labor Legislation in Massachusetts:—

General compilations, 1870, 1876, 1890, 1906-09, 1915.

Yearly compilations, 1877, 1878, 1892-1919.

Labor Organizations. Annual. 1911-17.

Directory of Labor Organizations in Massachusetts. Annual. 1905-20.

Union Scale of Wages and Hours of Labor in Massachusetts. Annual. 1914-19.

Miscellaneous.

Wages and Hours of Labor in Steam and Electric Railway Service in Massachusetts, 1916.

Labor Injunctions in Massachusetts, 1916.

Collective Agreements between Employers and Labor Organizations in Massachusetts, 1916.

Special Report on the Cost of Retirement Systems for State and County Employees in Massachusetts. Jan. 4, 1911.

A Directory of Massachusetts Manufactures, 1913.² Aug. 1, 1913.

Report on Power Laundries in Massachusetts, 1913. Aug. 1, 1914.

Report of a Special Inquiry relative to Aged and Dependent Persons in Massachusetts, 1915. Dec. 15, 1916.

Report of a Special Inquiry relative to Dependent Families in Massachusetts receiving Mothers' Aid, 1913-17. Jan. 15, 1918.

Quarterly Reports on Employment.

Employment in Massachusetts. Quarterly. First to twenty-eighth, 1908-Dec. 31, 1919.

Massachusetts Industrial Review. Quarterly. Vol. 1, Nos. 1-3, March, 1920-October, 1920.³

¹ A descriptive list in detail of these Labor Bulletins will be furnished on application.

² Publications out of print.

³ Continues quarterly employment in Massachusetts.

DEPARTMENT OF LABOR AND INDUSTRIES.

ADMINISTRATION OFFICES.

Rooms 469-473, State House, Boston.

Includes offices of commissioners and directors of divisions.

The office of the Director of Standards is Room 194, State House.*

BRANCH OFFICES.

Division of Industrial Safety.

FALL RIVER, Globe Building.

NORTH ADAMS, New Kimbell Building.

LAWRENCE, Bay State Building.

SPRINGFIELD, 21 Besse Place.

WORCESTER, Slater Building.

PUBLIC EMPLOYMENT OFFICES.

BOSTON, 8 Kneeland Street.

WORCESTER, 48 Green Street.

SPRINGFIELD, Water and Worthington Streets.

